

S C H O L A S T I C

COACH

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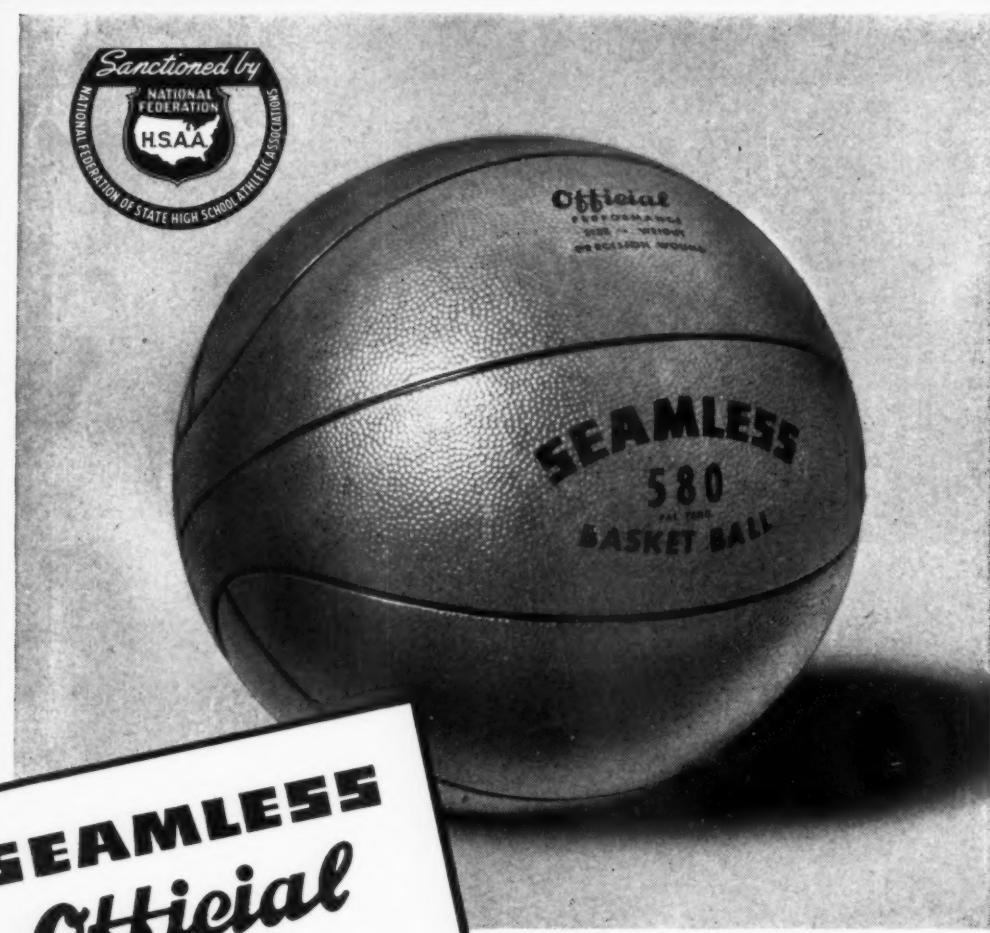
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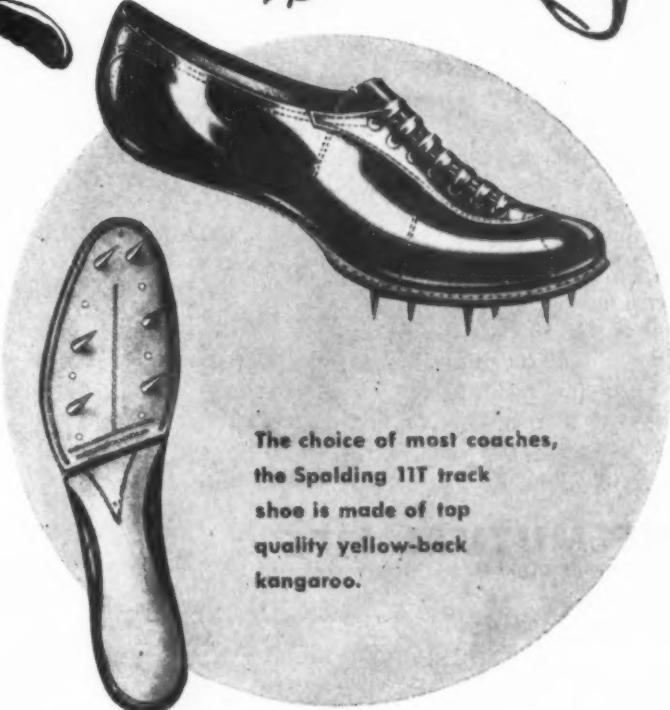
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SCHOLASTIC COACH

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VOLUME 17 • NUMBER 5 • JANUARY

IN THIS ISSUE

HERE BELOW (Old Rupp and Ready)	5
YOUR STADIUM	7
MODERN DESIGN IN THE SCHOOL PLANT by Weaver Pangburn	9
OUT OF THE NIGHT	12
NEW EQUIPMENT	14
SEATING FACILITIES by Donald Vance	20
DIAMOND FROM THE ROUGH by Warren R. Dacey	24
"MIRACLE DIRT" by O. R. Barkdoll	26
BUILD YOUR OWN DRYING ROOM by Emil Lamar	28
SAFETY IN THE GYM	32
THE EQUIPMENT PROBLEM by Kenneth G. Sullivan	38
SELECT FILM TITLES	42
NEW BOOKS ON THE SPORTSHELF	46
THE NEW LOOK IN LOCKER ROOMS	48
COACHES' CORNER	54
NATIONAL FEDERATION NEWS by H. V. Porter	66

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Gold Medal Nets



Old Rupp and Ready

THE sun is shining very brightly on that old Kentucky home these days. Even the balcony birds are making music all the day. Imagine a basketball team with four All-Americans, six All-Southeastern Conference stars, and several just plain great players!

The keeper of this Fort Knox of golden boys—Adolph Rupp—is an old hand at minting million-dollar teams. He can't stand mediocrity. Since taking over the coaching 17 years ago, he has won 317 games and lost only 67, for an amazing record of .827.

What's more he has captured the Southeastern Conference title four times running and ten times in all. If that record isn't tops for big-time college play, Roy Rogers is a horse beater.

When Old Rupp and Ready blew into town the other week, we put on our sneakers and fast broke over to this hotel. We found him under the bed sheets, resting up for some masterminding against St. John's that night.

"Think you'll win?" we asked, knowing it would take a miracle and Daddy Warbucks for Kentucky to lose.

"I don't know," he answered, in the best tradition of Frank Leahy. "My boys are in bad shape. Too many injuries. We'll really get going in February. Watch us after that."

SAME OLD OFFENSE

Has he changed his style of offense any since the fast break became so popular?

"No, our floor plays are exactly the same and we also have a play for every outside-ball situation. We just fast break a little more."

"We used to have our forwards cross on these breaks. But not any more. We let the man in the middle work the ball as far up court as he can go, before passing off. This keeps our offense spread and pressures the defense, especially if we have them 3 on 2 or 2 on 1."

Does he think the zone defense is decreasing in popularity?

"Yes, I would say so, thanks to the fast break. It's pretty tough setting up a zone against a fast breaking outfit. And nearly every team is breaking fast these days. Once you catch the zone short, you have it licked."

"But let me add this. A lot of the man-to-man defense you see nowadays is darn near a zone. North Carolina State, Oklahoma A. & M., and West Virginia, for instance, use a man-to-man with a loose, drifting principle that furnishes a lot of zone advantages."

"The fellows away from the ball sluff off, jamming up the middle. They certainly gum up your plays."

SWEARS BY MAN-TO-MAN

How about his own defense?

"I've always used the strict man-to-man—the old-fashioned kind. I don't permit much switching. Once you let your boys switch freely, they'll invariably overdo it. And you'll find loose offensive men floating all over the place."

"I like my boys to stick to their men and slide rather than switch in screen situations. This makes them dig harder and concentrate more on defense. When we get picked off, we'll switch. But the switch is not an established principle."

Does he still find different sections of the country interpreting the rules differently?

"I think the East permits the defense to get away with a lot of charging. The defense drives into you, frequently causing body contact, but few defensive charging fouls are called. You can't do that down our way."

We agreed with him on this. But we couldn't get him to admit that the East does a better job of interpreting the blocking rule. In the East, when an offensive player moves into a defensive player, the foul is clearly on the offensive player—an interpretation strictly in

accordance with the rule as written.

Rupp's comment on this—and he is correct as far as he goes—is that a lot of Eastern players, when they see a screen coming, deliberately move into it to draw a blocking foul.

Would he like to see any changes in the rules?

"None at all. The game suits me just fine. And I know the fans are happy with it. The modern game certainly is fast enough."

"In fact five men cannot play it any more. Too much running. In the old days, a team needed just one or two subs. Today you need ten good men. That is, if you expect your team to keep running at top speed."

Rupp shook his head a little sadly. "Look what happened to my team against Temple. They beat us 60-59. Say, Harry"—turning to his assistant, Harry Lancaster, "did you ever think anyone could score 60 points against us? We really have a great defensive team. But that's the modern game for you. Lots of scoring."

(Later I checked Kentucky's record since 1931 and discovered that one other team had scored 60 points against them. Long Island U. ran up 62 points in a post-season game last season. But Kentucky won, 66-62.)

THE GOON "MENACE"

Did he think the "goons"—players over 6 feet 6 inches—are ruining the game?

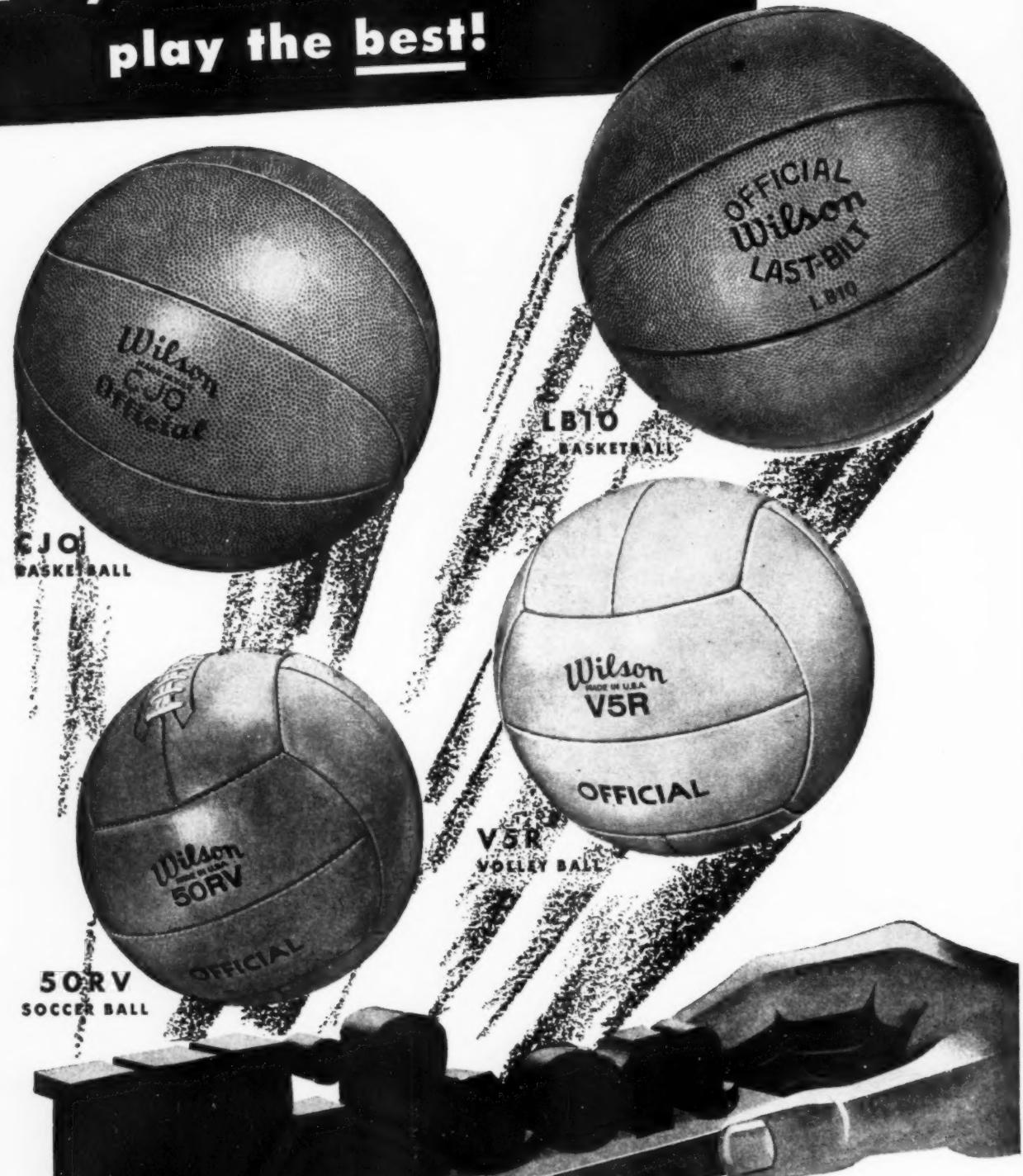
"Not at all. Unless a big man can run, he isn't much of a menace. You can wear him down, running up and down the court. And he's pretty easy to get around."

"The best big man I ever saw was George Mikan, of De Paul. Although George was 6 feet 9 inches, he could run, jump, shoot, and pass as well or better than any 6-footer. A great boy to have on your side."

What does he look for in a basketball player?

(Continued on page 60)

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IT'S WILSON TODAY IN SPORTS EQUIPMENT

Your Stadium

MANY problems relating to the design and construction of a stadium in a given locality are highly technical in nature and require expert advice. Considerable investigation and research have been conducted by designers and consultants, and past experiences indicate the need for representative planning.

The small stadium seating from approximately 3,000 to about 10,000 usually consists of a single permanent structure, and may extend down one side of a playing field or may consist of two such stands.

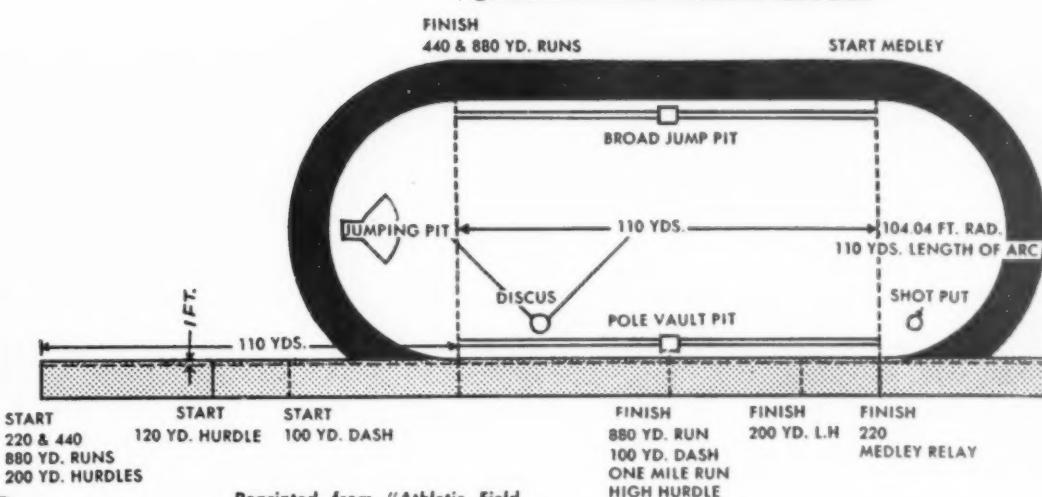
Two stands on opposite sides of the field, seating 3000 each, will cost considerably more and provide many less desirable seats than a single stadium on one side, seating twice the number. It should be planned to meet needs and to lend itself to evolution into a horseshoe or a bowl, if the demand arises.

The functional planning of stadia has purposely been directed at the larger and more inclusive structures. However, the following basic considerations should guide plans for smaller structures:

1. All the principles of functional planning suggested for large stadia are applicable to small structures; the specifics apply in number, to the degree and in a proportion dictated by the capacity, location, uses and future possibilities of the plant.

2. Planning for a small stadium should be exposed to the same reasoning and measurement of values as for the planning of a colossal structure.

Reprinted from "Athletic Field and Court Diagrams," prepared by Lowe & Campbell Ath. Goods



3. The permanent seating stand can be much more than tiers of seats. Underneath is very valuable space. It should be utilized for storage, activities and accessory needs.

4. The smallness of a so-called stadium does not excuse planning which ignores efficient and economical maintenance and operation, wastes space, slight spectator convenience and enjoyment, defeats maximum participant performance, abuses public relations, and disregards future growth and demands. Small stadia are the seeds for large ones. They should emulate their best prototypes.

Problems of planning and construction are intimately involved in the problems of administration, operation and maintenance, including protection, supervision, concessions and traffic regulation.

Therefore, any school or municipality contemplating construction should plan well ahead of time to have a committee of representative individuals, who will be involved in its construction, administration, operation and maintenance, visit a goodly number of stadia of various designs, capacities and special features.

Special effort should be made to discuss the errors of omission and commission disclosed in the actual operation of the stadia visited and to note likewise those characteristics which have proved to be desirable over a tested period of time.

The stadium designer is confronted with several major problems such as: field layout to accom-

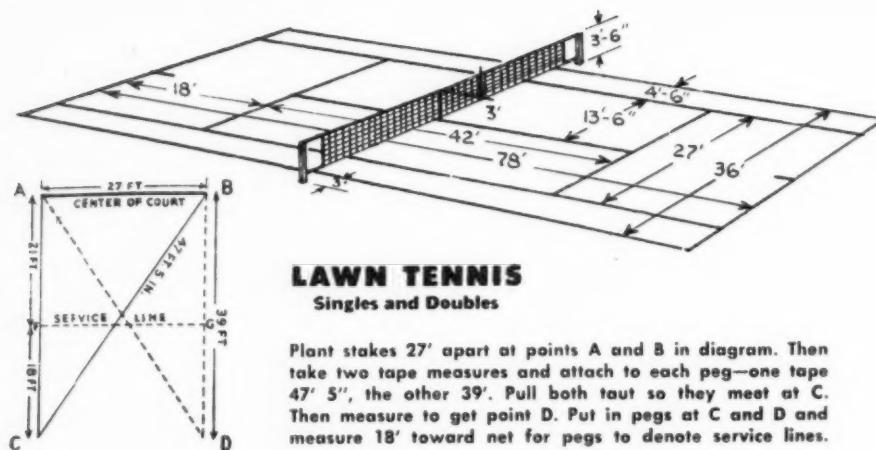
modate several, or in rare cases, all the popular games, contests and similar activities; layout and location of structures for the public providing maximum visibility, with a sufficient number of reasonably comfortable seats and provisions for safeguarding the convenience and the safety of driving before and after attractions.

He must in addition complete the entire project within the estimated consideration of minimum annual depreciation and maintenance charge; conform to the principles of good architectural design; plan for growth and enlargement and future capacity; and relate the entire plan to the needs of the participants, the public, the possible income, and the financing of the structure.

Multiple use: In planning and construction, due consideration should be given to use of stadia for events of wide and varied interests such as athletic contests, patriotic observances, plays and pageants, Easter sunrise services, anniversary celebrations, conventions, lectures, commencement exercises, massed meetings and demonstrations, large religious assemblies, parades, drills, band concerts, special exhibitions, and others.

Most stadia are planned and designed for more than one sport, and something of the ideal for each sport must be sacrificed, either from the standpoint of players or spectators.

For example, the track in a football stadium should be placed out from the foot of the retaining wall sufficiently to afford visibility of runners in outer lanes. To achieve this means pushing the spectators at football games farther away from the action. Similarly, a baseball field in a stadium constructed primarily



for football (except in colossal structures) must necessarily have one short outfield.

However, the intended use of the playing field for sports other than football should influence the planning. For instance, it is unwise and generally inexcusable to build an unorthodox track, as, for example, a 5-laps-to-the-mile track or one with short, sharp turns.

A standard track, presumably planned to accommodate relay carnivals meets with a large number of entrants from a goodly number of schools (conference meets, regional and national meets, state interscholastic meets, etc.) should provide a 220 yard straightaway so located as to provide the first furlong of the 440 and 880 yard runs, wherever space and major considerations permit.

If it is impossible because of costs and unwise because of current lack of demand to achieve this ideal, the possibility of future inclusions should be part of the original plan.

Engineering measurements related to fixed finish lines should be permanently set into the inner wall at the foot of the bank of seats to avoid possibilities of error in measuring off courses and locating starting points of various races. With exact measurements on the wall, approximate distances are thus permanently indicated as a check against possible error when taping off the course.

Standard hurdle locations could be similarly inscribed on the inner

wall with some bronze marker or similar permanent indicator.

Jumping and vaulting pits should be located in accordance with official specifications to provide maximum safety and enjoyment for spectators and participants. They should be so constructed that they can readily and safely be covered temporarily or, out of season, be covered with a surface which in turn is covered with turf.

The size of the stadium, grandstand or bleacher depends upon the type of school or community, number of students, faculty, alumni and townspeople; athletic relations with and proximity to other schools and communities, the specific conference and the emphasis placed on sports and available funds.

The difficulties in management problems for larger stadia mount geometrically rather than in direct proportion to capacity. It is about four times as difficult to handle double the number of patrons in large crowds.

The shape of the stadium depends on such factors as: (a) the sports and range of other activities for which it is designed; (b) topography and location of stand and playing field to offer maximum protection from the sun for eyes of both players and spectators; (c) the desire and practicability of providing the best accommodations at location of greatest spectator interest; (d) conformity to official sports requirements on playing field designs.

There are at least four general

classes of stadia design: ovals and bowls; horseshoes and muleshoes; side stands; and crescents.

Side stands on one or both sides and on both ends are popular in high schools and smaller colleges. Straight or slightly curved stands are suitable for football, track and general entertainments; curved and angled stands for baseball. Shallow curves have been frequently used for dual-purpose stands.

A baseball field may be laid out with first base line paralleling a straight stand.

Grandstands designed for future expansion into a horseshoe shape are frequently used.

Crescent plans are designed in relation to seat preferences and vary the width to a maximum at a point opposite the center of the playing field, the location of greatest spectator interest.

The exterior of stadia should be designed in accord with the prevailing school or campus type of architecture and materials available in the locality. There is probably no fixed standard of design or material.

Entrances and exits: To prevent rushes, the entrances should be well distributed and protected by several passageways fanning out around the entrances and made with safety railings set in concrete sidewalks.

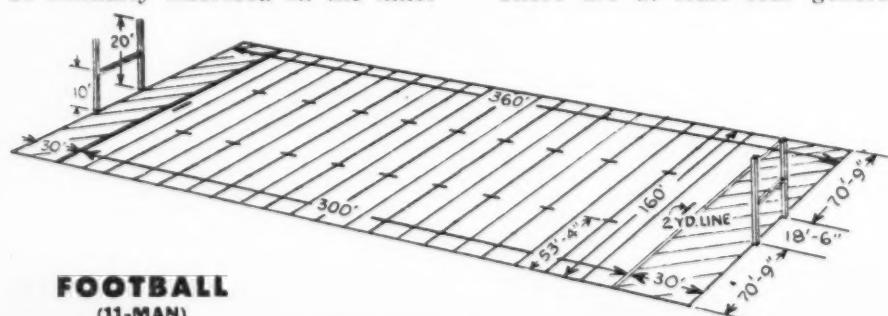
Convenience, safety, crowd appeal and public relations dictate that, in case of doubt, too many, rather than too few, entrance gates should be provided. The distribution of gates, stairways, ramps and passageways is of strategic importance.

Stadia should be planned for rapid and orderly disposal of crowds, about ten minutes should be the maximum time required to empty the stadium. In the interest of comfort and safety, special consideration should be given to the height of stair risers, width of aisle treads, size of portals, avoidance of stairways, and adequate aisles.

Stadia may be built to the advantage of natural slopes with the spectators' general entrances at the top and players' passages to the quarters underneath the stands with easy access to the playing field.

Drainage: Stadium fields obviously are amenable to the same drainage considerations as any other standard play areas. The seat structure or bowl itself offers an added problem, however, as it drains down the concrete steps to a grill at the foot of the structure, which directs the water into an open concrete gutter which in turn carries the flow away.

If the stadium is located where
(Continued on page 56)



(Courtesy Lowe & Campbell Athletic Goods)

MODERN DESIGN in the School Plant

In the Mineral Springs School District of Forsythe County, N. C., bulldozers are throwing dirt for a high school plant that will represent the *ne plus ultra* in cooperative planning for both school and community use.

Bushels of taxpayers' money may be saved by joint school and community planning. For it is both economical and utilitarian to locate a new school next to an existing park or to acquire park land next to an existing school.

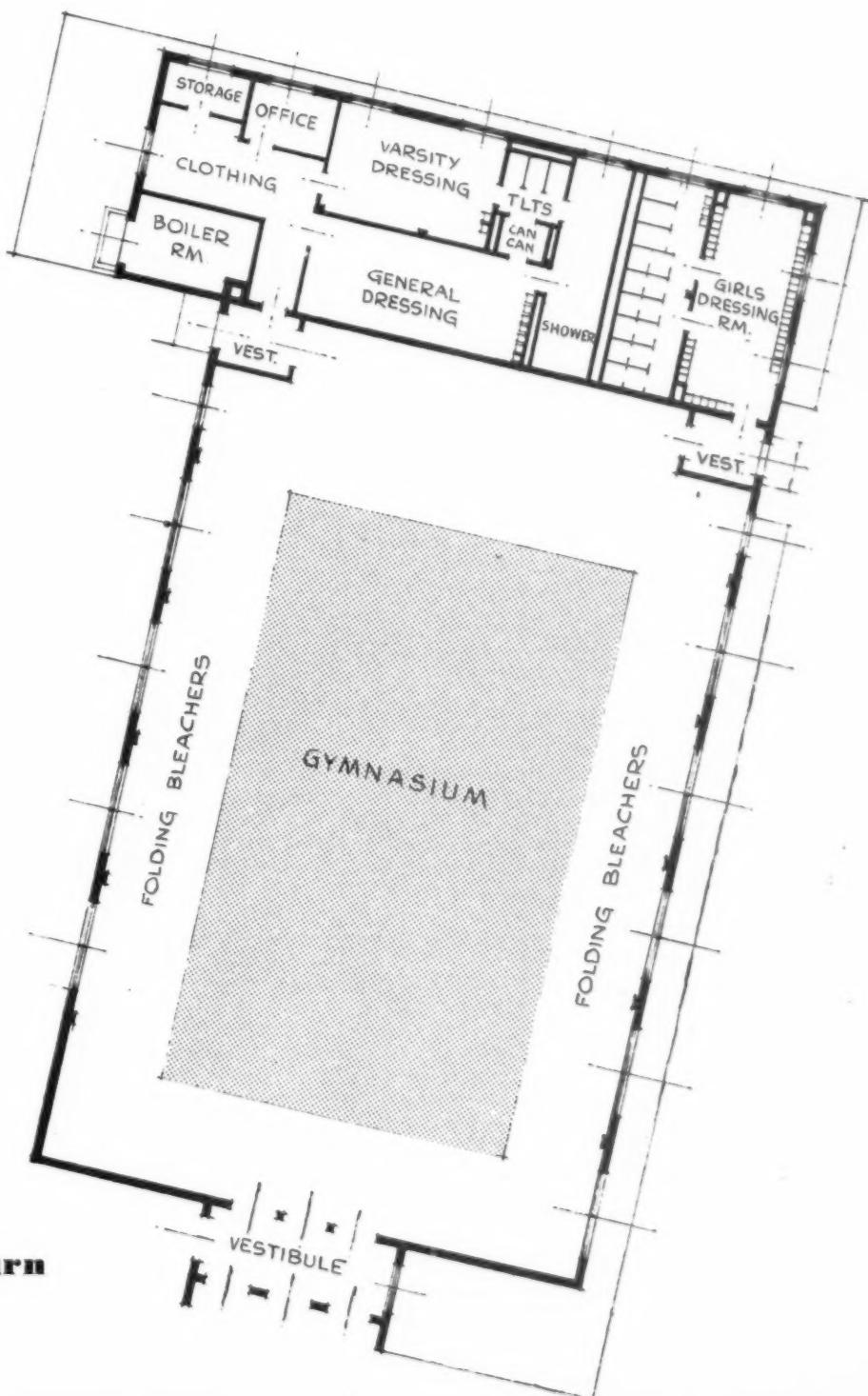
In Forsythe County, the school commissioners were faced with the necessity of replacing the Mineral Springs High School which had burned down, and of constructing other schools for a steadily increasing population.

The best solution to the problem appeared to be a consolidated high school for 600 students. As a site for the plant the commissioners selected a 32-acre plot reasonably centered in the district on high, rolling ground, one end of which was beautifully wooded and traversed by a brook.

At this point one of the commissioners, a noted manufacturer and civic leader, saw an opportunity to provide an object lesson in joint school and community planning that might influence the entire county and state.

On behalf of the school commissioners, he retained a noted organization specializing in basic recreation, athletic and park planning, to prepare a design for an outdoor athletic and recreational development which would meet the needs of both the school and the community.

The order was for an area which would embrace not only the major



By Weaver W. Pangburn

sports and other activities of the school physical education program, but a small children's playground, game courts for youths and adults, and a picnic area for the community—all in a park-like setting.

The recreation designers first of all made a careful analysis of the resources and needs of the school district (10,000 population), and of the adjacent urban and rural neighborhoods. The possibilities of the site were then explored and a consultation held with the building architects.

Out of this conclave came a decision to consider the building and athletic site as an entity and to plan jointly. The architects, to their credit, had already determined to employ the principle of community use and to locate the building not in the center of the fine property but rather in a corner of it with excellent set-backs, thus facilitating greater use of the remaining land.

COMPOSITE OPINIONS

In determining the areas and facilities to incorporate in the development, interviews were held not only with the school commissioners, the school staff, and the superintendent of recreation, who had been studying the recreational interests of the region for years, but also with young people and mature citizens of the district.

The composite opinions of these individuals showed that besides athletics, which were highly popular in the community, various other activities were wanted.

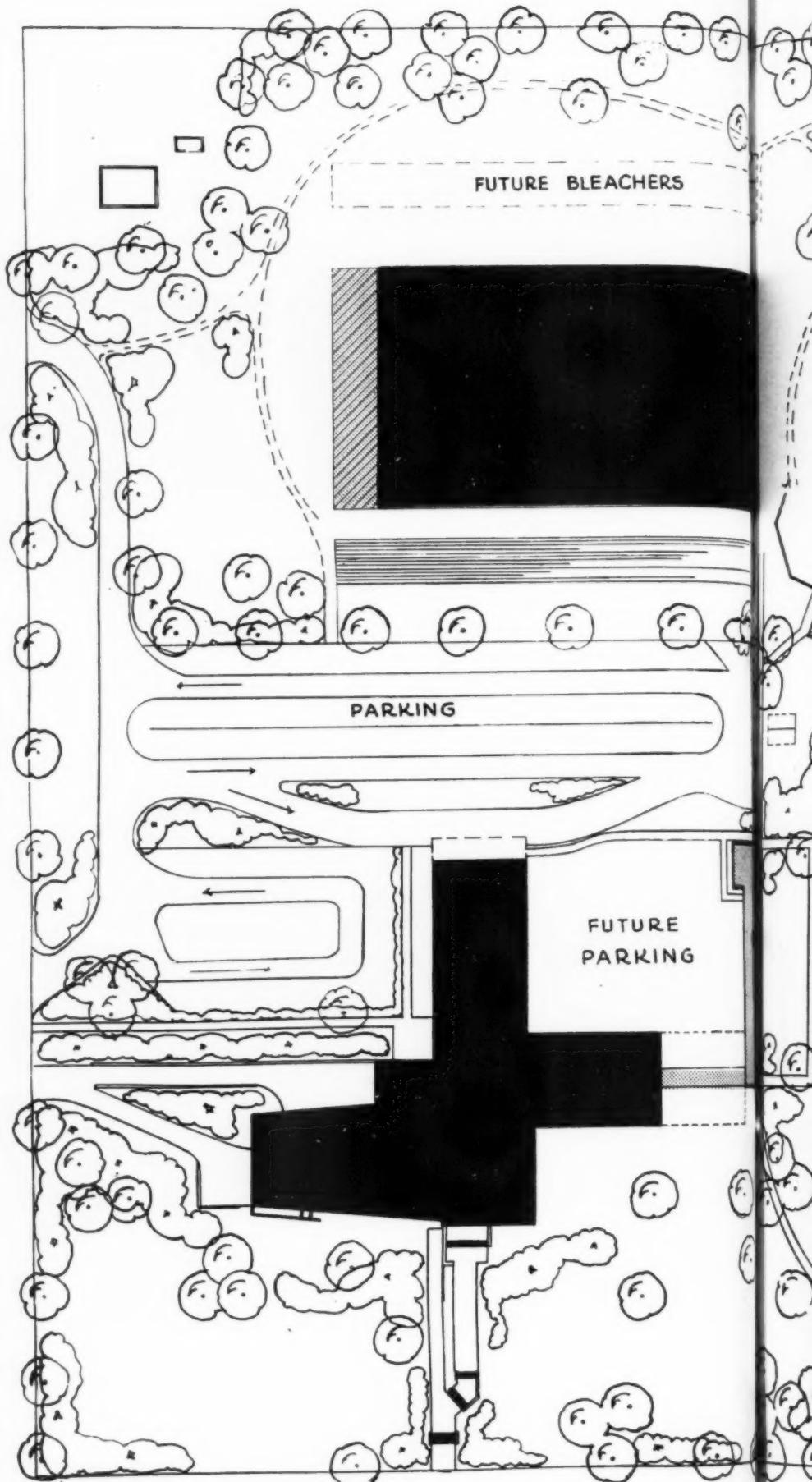
It was impossible to satisfy all requests, but most of them were incorporated so that the final plan actually reflected the thinking and desires of the community.

The interviews yielded nothing startling, and the items selected represented typical playground activities. The outstanding exception was the inclusion of outdoor bowling alleys, an unusual but popular activity in the county.

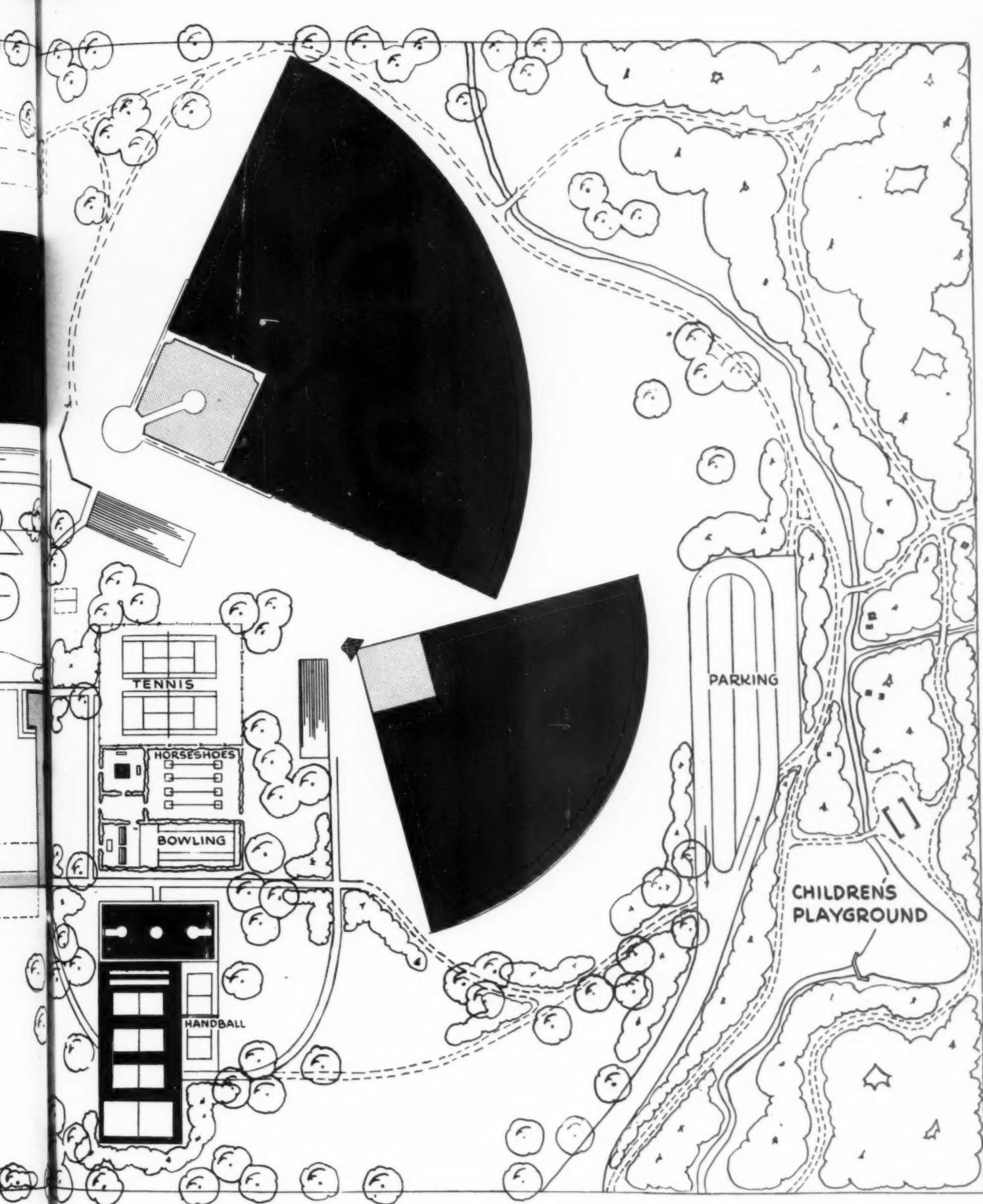
Though badminton and shuffleboard were relatively new activities for the community, they also were included since it was assumed they would soon become popular.

The design in relation to the topography of the site. The Mineral Springs property, unlike many school sites, is almost a perfect rectangle. Its topography, however, is far from simple. The contour levels vary from a high of 100 feet to a low of 50, and the land in general slopes unevenly downward from north to south.

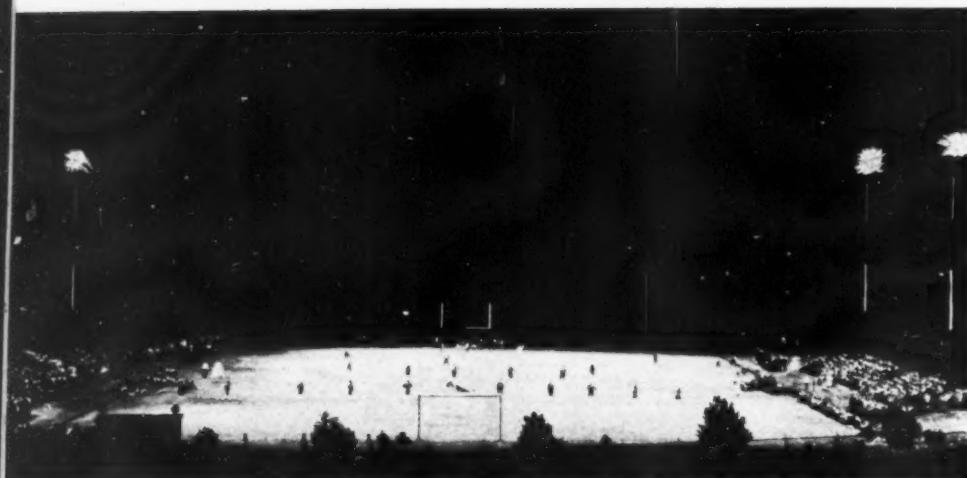
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A Study of the

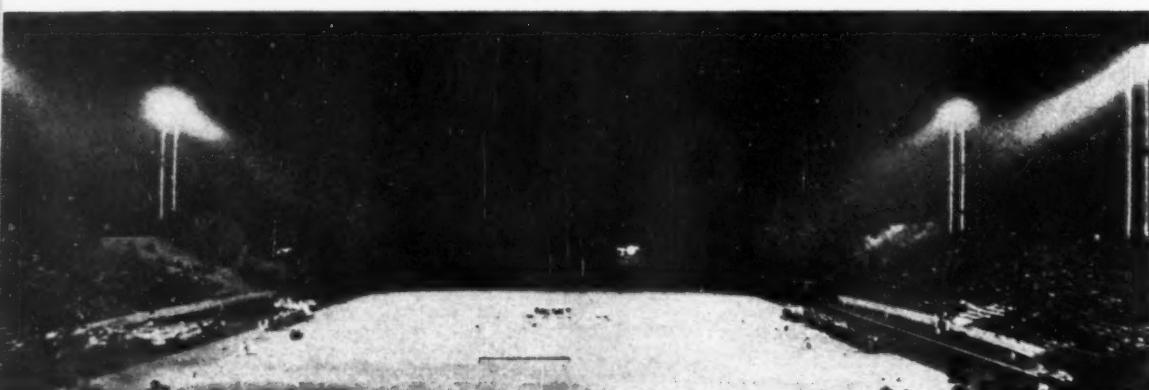


Mineral Springs Development



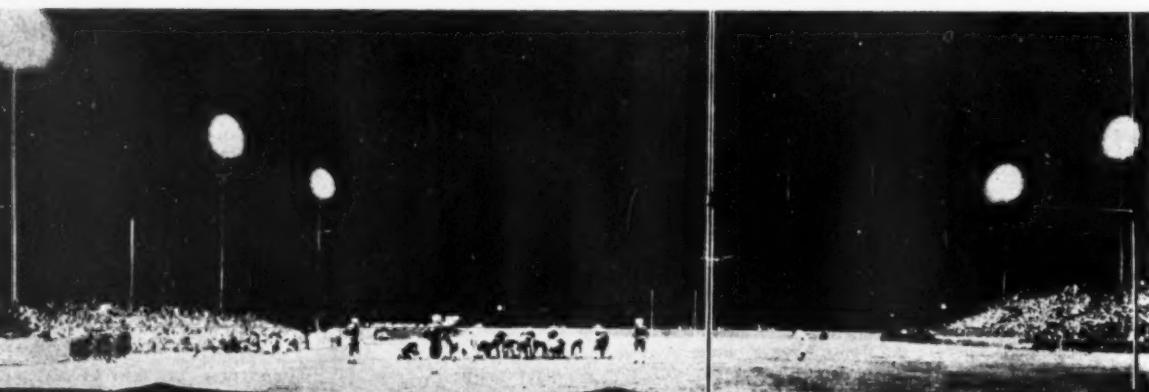
The Schuylkill Haven (Pa.) High School athletic field—72 floods on 6 poles.

General Electric Co.



Utah State Agricultural College stadium (Logan, Utah), featuring 108 floodlights on 6 poles.

Westinghouse Electric Corp.



St. Theresa Parochial High School field, Detroit, Mich.—a 128-light 8-pole installation.

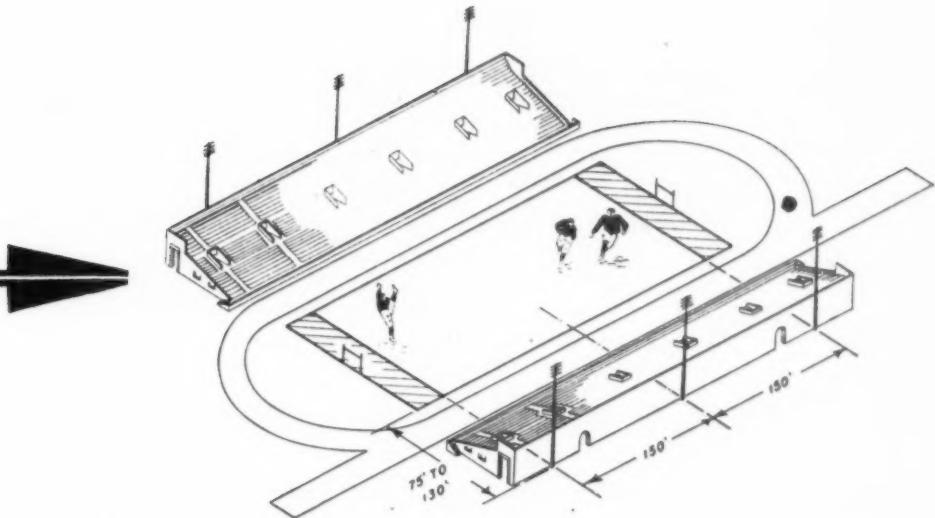
Crouse-Hinds Co.



Combination baseball-football field at Vandergrift, Pa.—208 floods on 9 poles.

Crouse-Hinds Co.

Out
of the
Night



THE illuminated athletic field at Schuylkill Haven, Pa., represents a heart-warming story of community cooperation.

Back in the '20's, when the school district was still operating without an outdoor athletic plant, the local Rotary Club stepped forth and bought 10 acres of ground as a site for a modern sports field.

This area was converted into a trim field with a running track and provisions for football and other sports.

That was fine as far it went—which was only until dark. So the Rotary Club again stepped forward—with \$10,000 to illuminate the field for night play.

Not to be outdone the municipally owned light plant chipped in with an offer to provide free current until the cost of the installation had been paid. And the school board did its share by making the field available for other community activities.

The General Electric Co. did a fine job with the installation. As the accompanying illustrations show, the field is illuminated by 72 floodlights mounted on six Union Metal Co. poles.

These Monotube poles, 100 feet high, are set up 150 feet apart behind the stands. Each pole carries 12 floods. The entire unit—72 floods in all—furnishes a total of 108,000 watts.

Since the installation permits the addition of two floods to each pole, the Schuylkill Haven field will eventually possess 84 floodlights, the maximum recommended by NEMA for Class C football installations.

Thanks to this modern plant, most of the town's 7,000 residents may now attend the school's athletic contests. That they are doing so is attested to by a 400% jump in football attendance!

St. Theresa Parochial High School of Detroit, Mich., spent \$17,000 to light its athletic field, and considers the investment one of the best it has ever made. With attendance up over 500%, they figure it will take no more than three or four seasons to pay off the debt.

The lighting system consists of 128 floods on 8 poles (16 lights to a pole). The poles are mounted 53 feet from the sidelines, 100 feet apart, and are 80 feet high—10 feet being below ground.

The lighting is controlled by underground wiring. One flood on each pole is controlled by a separate switch used for work lighting or pre-game practice. Flexibility of control is assured by placing the floods of two poles on one switch. Each light is fused at the base of its pole.

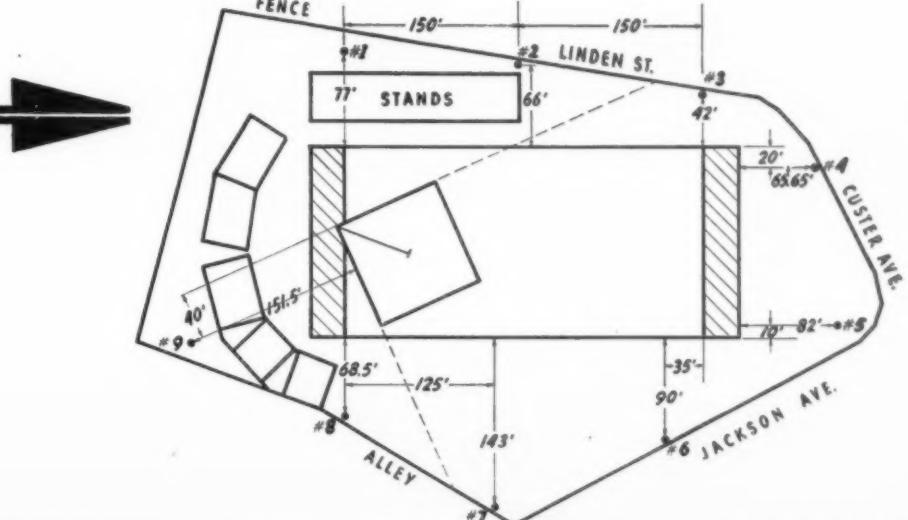
This control arrangement is advantageous for activities such as band practice, pageants, fights, or any other activity requiring less light.

Operation, under Detroit Edison rates, are very economical, coming to less than \$25 per game.

The field was constructed and equipped by the Crouse-Hinds Co. under the direction of Msgr. Walter R. Hardy, the pastor, and George DuFour, the athletic director.

The combination baseball-football field at Vandergrift, Pa., is a 9-tower job featuring 208 floodlights. Pole No. 9 carries 18 floods; the others, 24 each.

All the units are lit for baseball. For football, only 106 units are illuminated—15 on Poles 1 and 8; 16 on Poles 2 and 3; 20 on Pole 6; and 24 on Pole 7. The units on Poles 4, 5 and 9 are not employed.



NEW EQUIPMENT

As a service to its readers, *Scholastic Coach* offers this periodic round-up of new sports equipment items. For further information write to: *Scholastic Coach*, New Equipment Dept., 220 E. 42 St., New York 17, N. Y.

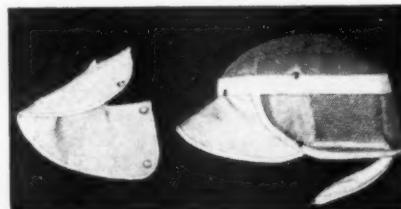


• SHADOGRAF SCOREBOARD projects basketball score quickly in easy-to-read fashion on ceramic coated glass. Timer measures 21 in. in diameter with 8 bulbs behind durable plastic face, numerals lettered in black. Quarter numerals come in white on black, illuminated. Overall size: 52½ in. long x 32½ in. high

x 12 in. deep. Numerals 9½ in. Control panel amazingly simple and easy to operate. Two reverse buttons, one for each team; reset button clears board and turns off projection lamps. Nothing to figure out. Produced by Shadograf Mfg. Co., this basketball scorekeeper furnishes superb visibility in any type gym.



• SAFETY HELMET. Specifically designed to afford protection to the defensive as well as the offensive man, Ken Wel's new head protector features protective foam rubber paddings at all the crucial points. Beautifully cushions all blows. Outside covering is made of soft, strong leather of type used in boxing gloves.



• FENCING MASK. The new and unusual feature of this Castello Fencing Equipment Co. item is a detachable bib and chin rest. This once permanent adjunct can now be laundered or replaced by merely releasing snaps which attach bib to frame.



• GRIP PREPARATION. A product of the Hydro-Chemical Co., Hydro-Tac, a liquid hand preparation, assures better gripping. When applied to hands before contact with footballs, etc., it furnishes instant grip, regardless of moisture from rain or perspiration. Sanitary, will not transfer from hands to clothing.

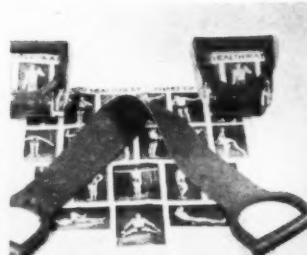


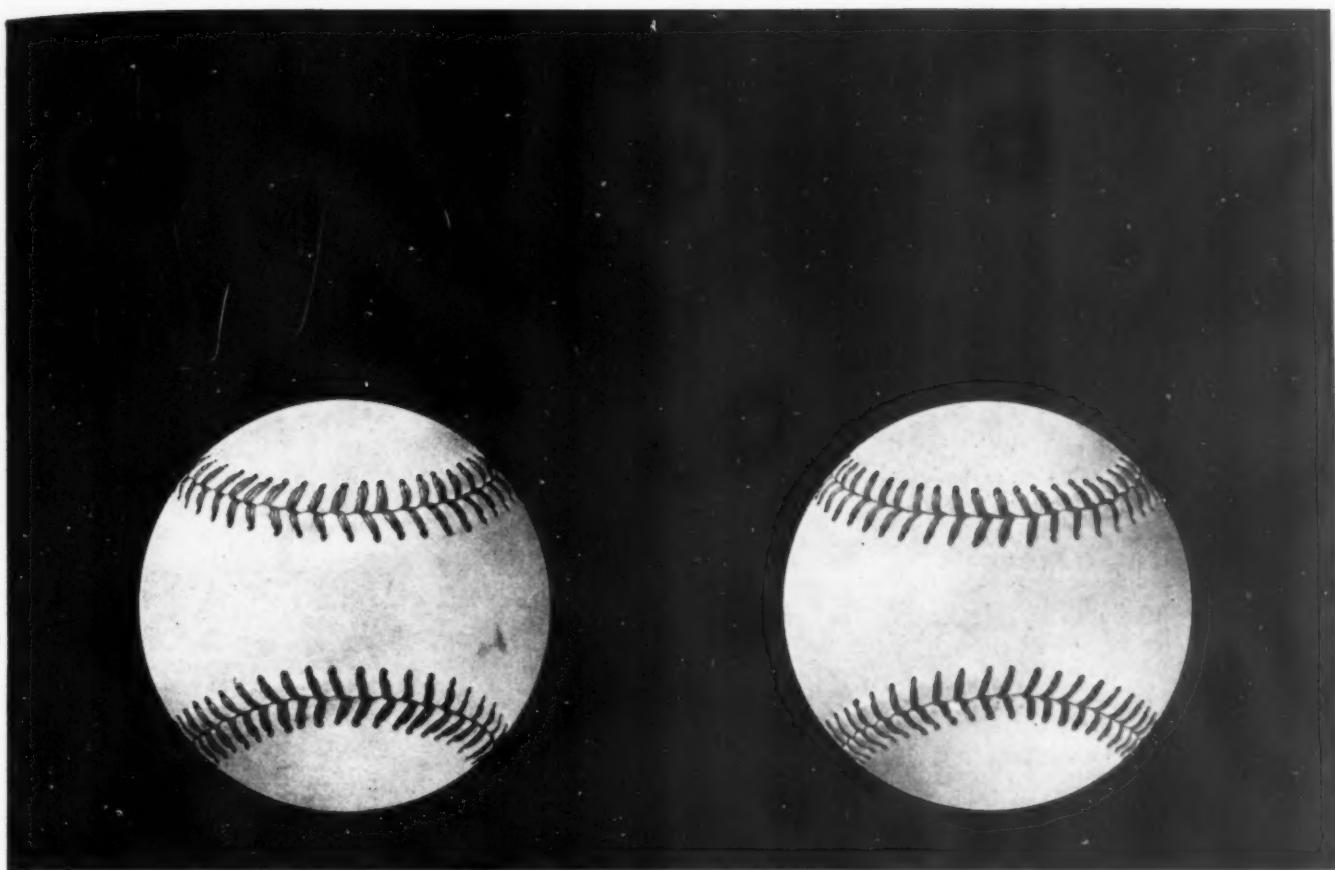
• STARTING BLOCK. Made of aluminum alloy with replaceable rubber foot faces, this R. W. Arnett product is adjustable to all types runners. Adjustments obtained in 3 to 7 sec. by merely sliding to desired position.



• PORTABLE WATER CARRIER. New, heavily insulated carrier and dispenser holds 250 Lily Cups and provides water in measured amounts at temperature desired. Holds 5 gals., enabling you to take home-town water with you on traveling games. Can be carried easily, can be set down anywhere. A Lily-Tulip Cup Corp. product.

• GIANT EXERCISER. Made of guaranteed natural rubber, patented one-piece design with metal rods molded into handles the Healthways of Hollywood exercising device stretches, contracts and relaxes. Excellent for quick workouts, compact in size, it comes complete with illustrated exercise chart.





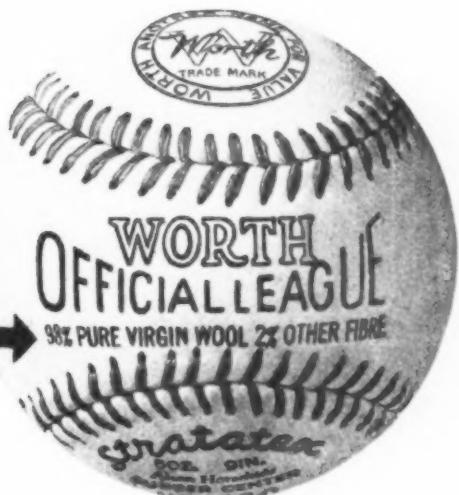
Two fine-looking baseballs . . . but what's in them?

How long will they last?

**The answer lies in the quality
of the Yarn. Look for**

WORTH VIRGIN WOOL

**as a guarantee of the best
in BASEBALLS.**



THE LANNOM MANUFACTURING CO.

Tullahoma, Tenn.

Grinnell, Iowa

WORTH - another name for VALUE

NEW EQUIPMENT

STOP
KNEE AND ELBOW INJURIES!

"Bub"

**Duribilknit
PROTECTORS**

KEEP YOUR PLAYERS PLAYING!

"Bub" Duribilknit Protectors safely cushion knees and elbows against shocks and bruises.

Millions of tiny, sealed, air cells give "Bub" Protectors their shock-absorbing resilience. That — plus same genuine surgical elastic construction used in world-famous "Bub" athletic supporters.

SHOCK-ABSORBING!

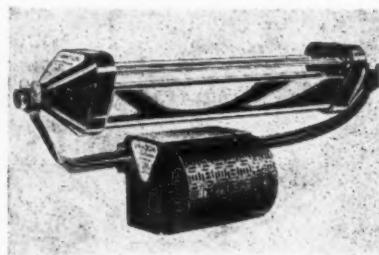
Seamless, knitted back for pinch-proof comfort! Slip-proof! Non-absorbent, washable. Available for your basketball teams in school-matching colors: Royal Blue, Gold, Kelly Green, Scarlet, Black.

Buy "Bub" Protectors at your sporting goods dealer.

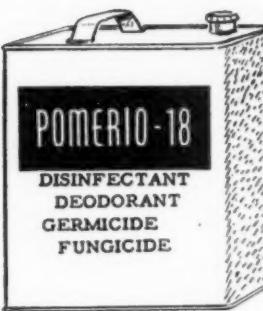
John B. Flaherty Co. Inc.
Established 1890
611 EAST 133rd STREET BRONX 54, NEW YORK

THE BEST TEAMS ARE BEST EQUIPPED!

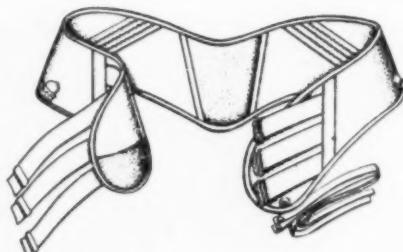
• **MAGNESIUM CUP SUPPORTER.** The new Johnson & Johnson athletic supporter with a metal cup made of magnesium is reputed to be the strongest and lightest metal cup supporter ever manufactured. It has been adopted and endorsed by the New York Yankees. The supporter affords extra strength, comfort and support, yet weighs less than other metal cup supporters. Comes in an attractive blue and white box, and is a fine bet for high school and college teams.



• **AIR SANITIZER.** Rest room, locker room and gym odors are eliminated; air is kept fresh by Viragon, a new type sanitizer which combines an electronic tube with an ozonator safe in continuous operation. Compact unit, available on portable stand or wall bracket, plugs into ordinary light socket. Kills air-borne bacteria.



• **GERMICIDE-FUNGICIDE.** Developed by Dr. Shiffer's Labs., Pomerio 18 is an unusually effective germicide and fungicide for both floor disinfection and footbath solution. So potent it requires only 1 oz. to the gallon—affording real economy. Non-volatile, non-irritating, Pomerio 18 is effective for washing, mopping, spraying.



• **PRO-BELT,** a Professional Appliance Co. product, protects the pelvis against shock, strain and injury. Only 4 1/2 in. high, weighs only 6 oz., has adjustable straps and soft chamois covered back pad and ends. Tested by pro footballers, it furnishes excellent sacro-iliac support for football and basketball players.



MODEL 165-S

• **SPORTS TIMER.** The Gray Lab. & Mfg. Co.'s new time-piece affords extreme accuracy and is very simple to operate. A large 8-inch dial gives direct reading of time left to play. A portable Gra-Lab 110-volt horn is plugged into the timer near the public address microphone. When the quarter reaches 0 minutes, the signal from the official's horn is picked up by the amplifier and relayed to the field and spectators. A perfect device for all sorts of games.

SWEAT BLOCKED THIS SHOT

MOISTURE and oils picked up during normal play often result in a 5% increase in the weight of a basketball.

This can easily mean a 6-inch error on a 10-foot shot—just 50 times far enough off for a miss.

This couldn't happen to a Voit Rubber Covered basketball because it's moisture proof. Voit balls not only feel right and play right—they stay right.

Next time ask for the Voit Custom XB20 or the Voit CB2—their name means dependability.



Voit

NEW YORK 10, CHICAGO 6, LOS ANGELES 11

*America's Finest
Athletic Equipment*

Introducing . . .

The Ken-Wel "SAFETY" Helmet



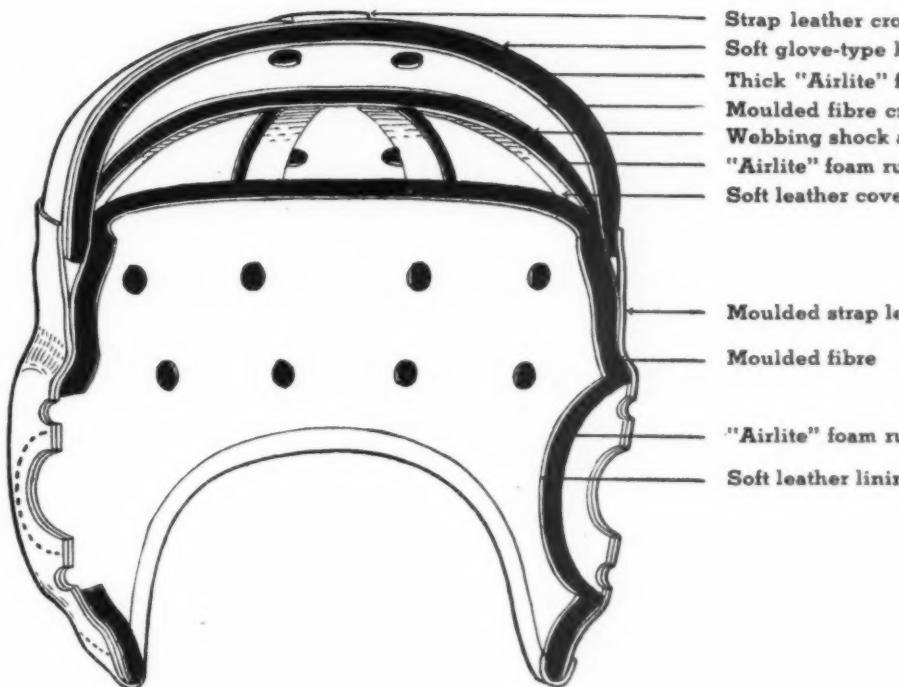
Conforms to the suggested recommendations of the
National Collegiate Athletic Association

Since a quarter century ago, when the hard-top helmet was developed, designers and manufacturers have worked exclusively for the protection of the man IN THE HELMET. Up until now they have ignored the effect of such hard surfaces upon the defensive player.

Not only has the National Collegiate Athletic Association suggested certain recommendations in order to protect the defensive player, but the National Safety Council has made an extensive study of football injuries. Dr. Mock, in his report states that defensive players are injured more often than offensive players and says they "should be more properly protected."

KEN-WEL now offers the only modern SAFETY helmet to give that "proper protection" to the defensive player plus additional protection for the offensive player.

Makes every other Helmet as Out of Date as Bare-Knuckle Fighting



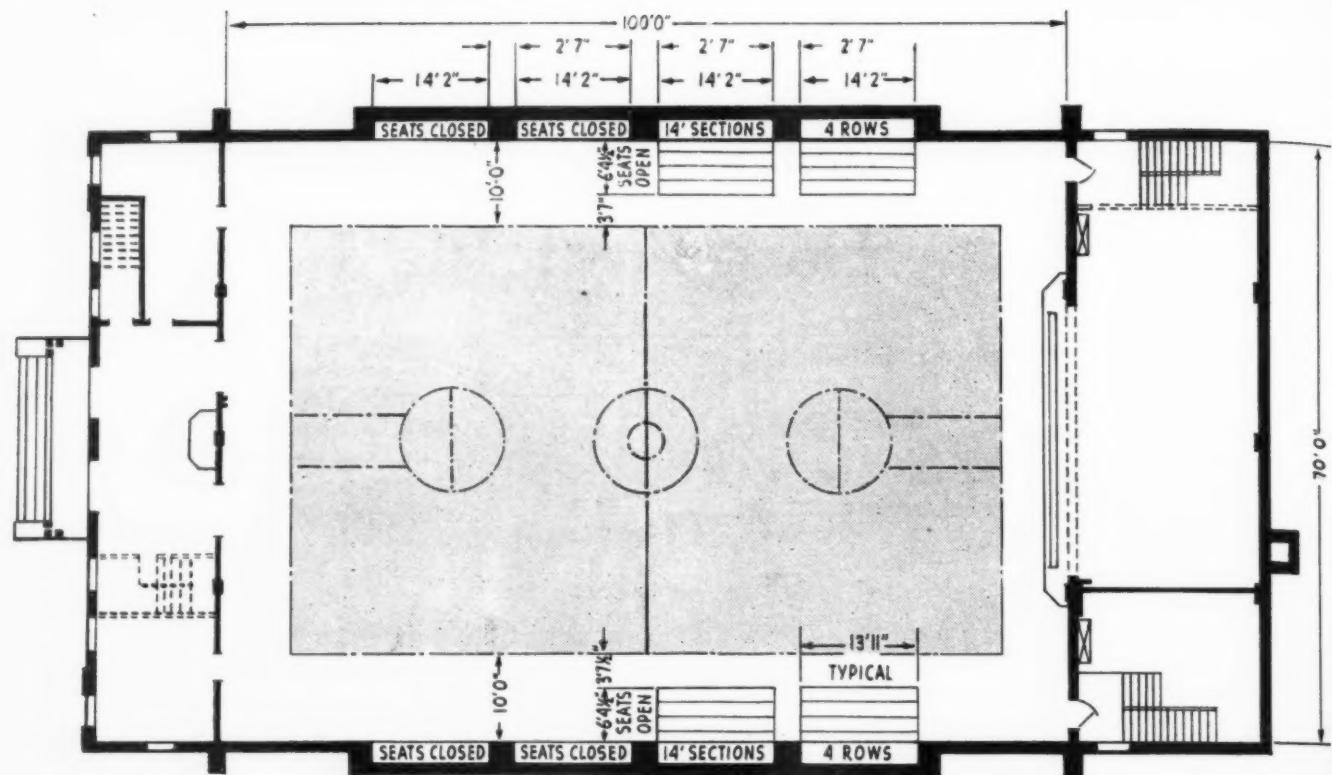
It's the difference between punching a wall with your bare fist and when protected with a boxing glove.

Try it for yourself. First strike the outside top of any other football helmet with your *bare knuckles*. Hurt? Sure it does . . . just like it hurts (and sometimes injures) the defensive player. Then strike the top of Ken-Wel's "SAFETY" helmet where the foam rubber protects the defensive player. Hurt? NO . . . but there's just as much force to the blow.

That's the secret of the Ken-Wel SAFETY helmet . . . a layer of "Airlite" foam rubber on the OUTSIDE of the crown, covered with soft but tough glove type leather.

It's the sort of helmet you'll want other coaches to use against YOUR team. Don't be out of date . . . call your dealer now and ask to see the exclusive Ken-Wel SAFETY helmet, or order direct.

KEN-WEL
SPORTING GOODS CO.
UTICA, N. Y.



FLOOR PLAN SHOWING RECESSED GYM SEATS $\frac{1}{8}$ " = 1'0"
8-14 Ft. SECTIONS - 4 ROW GYM SEATS - CAP. = 40 PERSONS EACH = 320

Fred Medart Mfg. Co.

Nerinx Hall, Webster College, seats 320 people with eight 14-foot sections each containing four rows of gym seats.

Seating Facilities

DESIGNERS of seating facilities face two immediate problems: (1) provision for maximum capacity, and (2) flexibility of use.

The placement of gym openings bears directly on the seating problem. Entrances and exits usually occupy more space than is necessary, and often are located in places otherwise ideal for good seating. As a rule they should be situated at the ends or the corners of the floor area.

Side-located entrances and exits impinge on space that is best suited for seating for such games as basketball, for dancing, and for theatricals.

Areas behind the backstops or at the ends do not provide ideal visibility. That space, therefore, is best for entrance and exit use.

There are three general classes of seating facilities: Built-In, the Folding Type Bleacher permanently attached to floor or wall, and Portable Bleachers or Removable Seats.

Built-In seats are too expensive and cumbersome for average use. They also occupy too much space to provide efficient seating from the standpoint of capacity use.

By DONALD VANCE

They are occasionally installed with locker and shower rooms under them. But this plan is not ideal because it occupies cross-court and similar space that could be otherwise devoted to physical education classes, dances and other activities.

It is estimated that a square foot of recreation-building floor averages at least \$7 in cost. Dual-use buildings are in this category, too. Thus if three banks of fixed seats take up 3,000 feet of floor space, they occupy \$21,000 worth of space that cannot be used for any other purpose.

Built-In seats are made of wood or of reinforced concrete with wood bottoms. Opera-Chair seats are even more expensive. And seats that cannot be removed or shifted as needs arise are of course utterly impractical for dual or multi-use buildings.

An answer in part to some of those problems is provided by the Folding-Type Bleacher that is permanently attached to the floor and

wall and can be compressed when not in use.

This type costs approximately the same as the Built-In seat but much less than the Built-In unit of which opera or stadium chair seats are a part.

When compressed the Folding Type Bleacher occupies only a fraction of the space normally required by fixed seats. This of course greatly enlarges the floor space available for other uses.

For example, a bleacher of this type, six rows in depth, takes up little more than 10 feet of space when opened, but folds into a space only $2\frac{1}{2}$ feet in depth.

As more rows are installed, space occupied in the folded position is proportionately less, and the total space thus saved may be sufficient for two or possibly three extra cross-courts for basketball.

The Folding Bleacher also permits greater seating volume in a given area, as opposed to the Built-In seat. Usually, 22 inches of space from front to back of each row is regarded as standard for seating mixed crowds.

**SURE FOOTING WHEN YOU USE THIS
100% SLIP PROOF FLOOR FINISH!**

ORDINARY
FINISHES
REMAIN ON TOP

SEAL-O-SAN®

GYM FLOOR FINISH

WHY NOT have a playing floor that makes your men sure-footed and quick? They'll play a better brand of basketball on a Seal-O-San floor. You can have it at small cost, for anyone can apply Seal-O-San. You just mop it on. Daily maintenance is easier, too. Write Dept. A-3 or send coupon today.

HUNTINGTON LABORATORIES, INC.
HUNTINGTON, INDIANA



TORONTO



ASK ABOUT OTHER
SCIENTIFIC FLOOR
MAINTENANCE
PRODUCTS

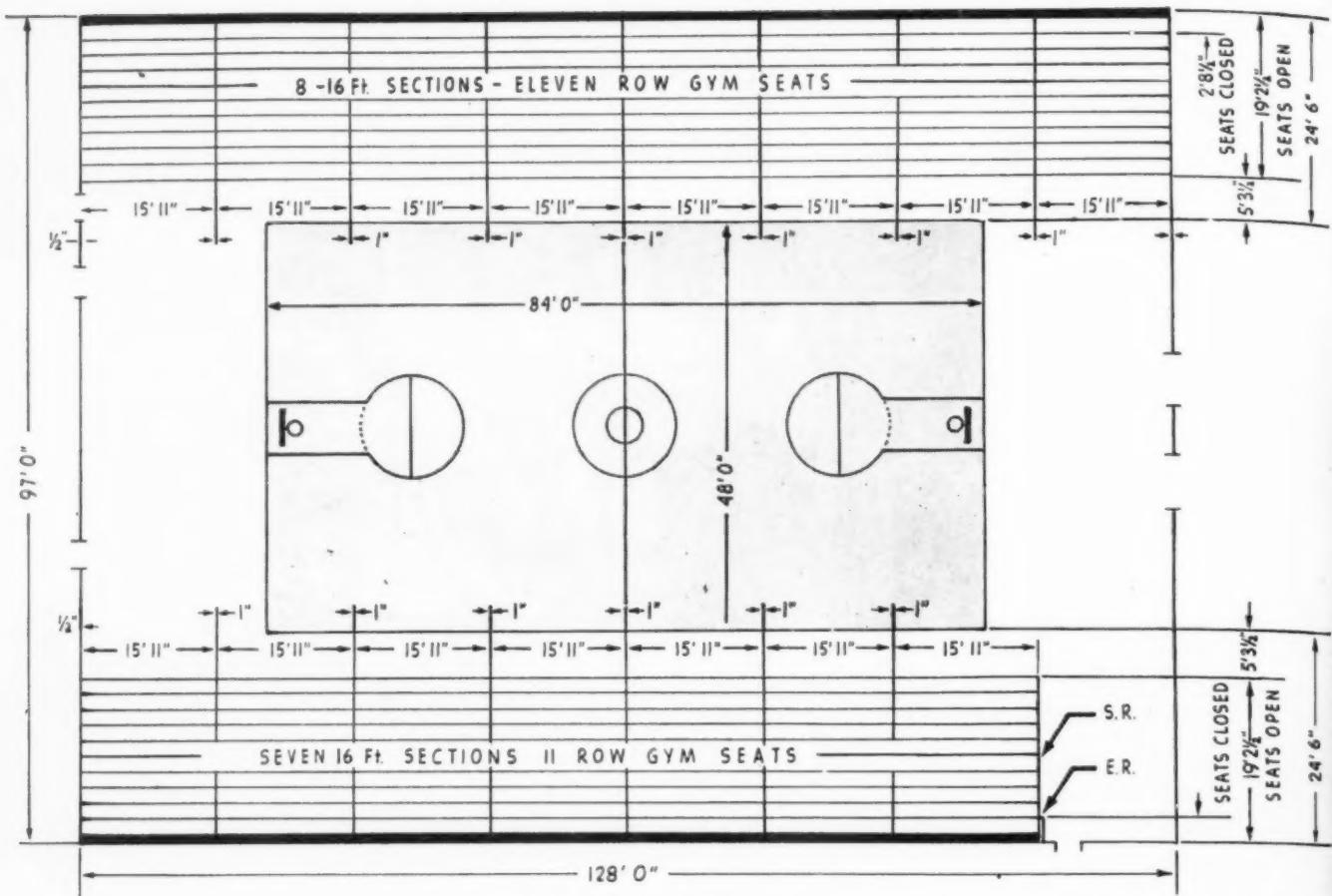


TELL US MORE about SEAL-O-SAN Gym Floor Finish.
Send FREE copies of 1948 Huntington Coaches Digest and the NEW
Basketball Shot Charts.

NAME _____

ADDRESS _____

CITY _____ STATE _____



FLOOR PLAN $\frac{1}{8}$ " = 1'

Fred Medart Mfg. Co.

The Central High School gym in Phenix City, Ala., has a seating capacity of 1,980 thanks to this neat layout.

But for Built-In seats most planners allow around 30 inches, and additional space is needed for permanent aisles where stadium or opera type seats are installed.

The following table illustrates graphically the advantages afforded by Folding Bleachers on an 80x110' floor:

Built-In Seats Fold. Blchr.	
Floor Size	80 x 110' 80 x 100'
Avail. Space	6050 sq. ft. 8490 sq. ft.
Seat Area	2750 sq. ft. 310 sq. ft.
Aver. Capacity	720 people 1078 people
Aver. Seat Cost	\$12 \$7
Play Space, Game	50 x 90' 50 x 90'
Play Space, Practice	1-50 x 90' 2-45 x 70'

Probably the most complete answer for all-around industrial sports use is the Portable Bleacher that can be removed entirely when not in use.

If this type seat is selected, storage space should be created in a location convenient to or within the building. These seats should be moved about on rubber-tired trucks. Many users leave them stacked on the trucks in the storage room. Truck cost is a minor item, and the trucks will save wear on valuable gym floors.

Assuming the Portable Type Bleacher will be your selection, you

will require the following amount of equipment to seat the crowds indicated:

No. People	Footage Portable Blchr. Required	Approx. Cost
200	45' of 6 rows	\$ 425
500	75' of 9 rows	1,050
1000	135' of 10 rows	2,100
3000	270' of 15 rows	6,300
5000	450' of 15 rows	10,500

Various types of obstructions complicate the bleacher installation. If radiators are located along the walls, it is best to recess them. The cost of that alteration will be more than offset by the additional seating provided.

If it is impossible to recess the wall radiators, an overhead heating system is recommended as a replacement.

Not much can be done about columns or pilasters that conflict with seats for floor space. In such cases the bleachers should be set flush with the obstructions.

You can, however, remove the often-encountered obstruction of the time-keepers table from the sideline. Both Folding and Portable type bleachers have units containing the space necessary for such tables. By using this type bleacher for the purpose you will save val-

uable seating space and eliminate a sideline hazard.

If your gym building is also to be an auditorium, place the stage at one end and the entrances and exits at the corners of the stage and at the opposite side of the room, thus avoiding conflict with valuable seating space along the sidelines.

In all planning, considerable thought and care must be given to maintenance. The modern seating facility should not be set aside and used only periodically. If it is to be a real asset to the community, it should be flexible in design and should be in constant use. One activity may require no seating. Another may demand the maximum capacity.

The seating units should be designed to assure a minimum of labor in setting them up and taking them down. The introduction of the folding type bleacher has done much to reduce labor in such change-overs—an economic factor of importance.

In the future, we must devise even greater labor saving devices. It can be done.

Donald Vance, manager of the Universal Bleacher Co., prepared this article originally for *Aim Magazine*.

The Personal Models
of these 1947 stars



Johnny Mize

Tied Ralph Kiner for most Home Runs (51) in both leagues; batted in 138 runs; scored 137 runs.



Ralph Kiner

Tied Johnny Mize for most Home Runs (51) in both leagues; batted in 124 runs.



Ted Williams

Hit 32 Home Runs; batted in 114 runs; scored 125 runs; led American League batting with .343.



Harry Walker

Lead National League hitting with .362.



...are in the
LOUISVILLE SLUGGER LINE



Joe DiMaggio

Hit 20 Home Runs; batted in 97 runs.



Willard Marshall

Hit 36 Home Runs; batted in 106 runs.



Johnny Pesky

Led both leagues with 207 hits.



Tommy Holmes

Led National League with 190 hits.



George Kell

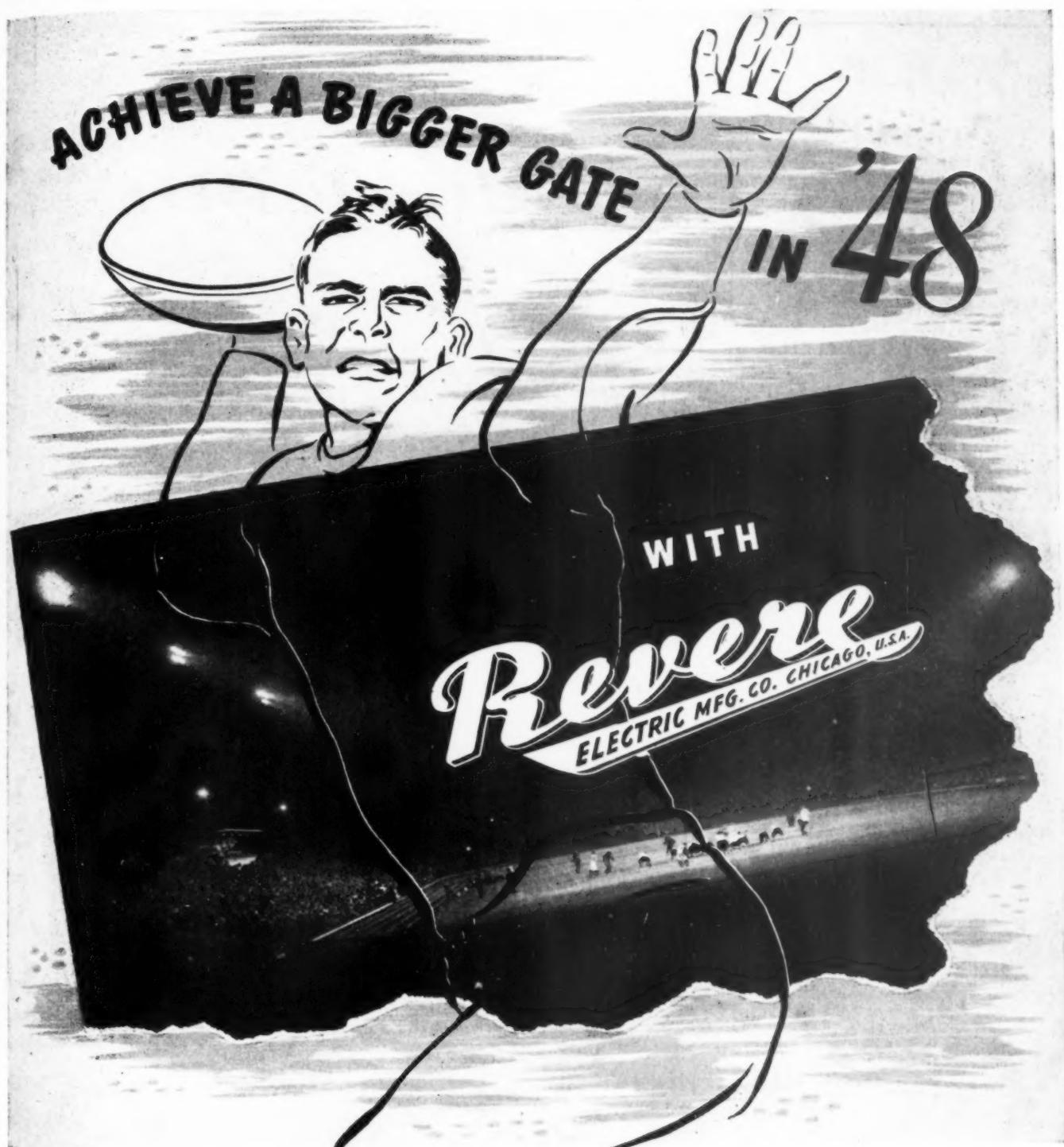
His 188 hits drove in 90 runs.



When a name makes news . . . it also makes sales. That's why each year's Louisville Slugger Bat Line always includes the personally autographed models of baseball's outstanding sluggers — in addition to the famous players of other seasons. You'll find the signatures of the Champions ONLY on the bats of the Champions.

HILLERICH & BRADSBY CO., Inc., Louisville, Ky.

LOUISVILLE SLUGGER BATS



Engineered NIGHTTIME FLOODLIGHTING



Floodlights from 150 to 5000 watt to suit every sportslighting need. Flood illustrated is our No. 4200 — (750-1000-1500 watt) for all types of mounting. Has degree markings also rotation stop adjustment.

There's no money bucking a trend . . . and the trend is to Nighttime sports. Schools and Colleges, alert to this trend, report their 1947 income from sports overwhelmingly ahead. Put a sizable part of your athletic budget in Revere Engineered Sportslighting and insure "a bigger gate in '48."

The broad experience and technical "know how" of the Revere Engineering staff is at your service to help you plan well.

Write for our sportslighting catalog and learn how well-planned sportslighting soon pays for itself.

REVERE ELECTRIC MFG. CO.

6019 BROADWAY • CHICAGO 40, ILLINOIS

INDOOR AND OUTDOOR LIGHTING EQUIPMENT TO SERVE EVERY NEED

a stitch in time



will save you **MONEY**

DON'T DELAY
send your equipment
TO MARBA NOW

NOW that the season is over, you can't afford to delay . . . not one single day . . . no, not even one single minute. Send your equipment to MARBA immediately . . . before the deterioration caused by moths, mud, and mildew even has a chance to "set in." Remember . . . MARBA'S expert craftsmen, modern machinery, and superior quality materials provides you with the finest in reconditioning service at real economy cost. Every piece of equipment sent to MARBA is fully insured against fire and theft from the minute it leaves your building until it is returned. Pack up that equipment at once . . . and send it off to MARBA for complete, modern reconditioning service.

ACT NOW . . . write, phone or wire MARBA or their nearest representative today for bags and complete information on MARBA'S highly specialized method of reconditioning.

MARBA INC.
ATHLETIC EQUIPMENT RECONDITIONERS
485-31 NIAGARA ST.
BUFFALO 1, N.Y.

"Miracle Dirt"

EVERY summer some school administrator is sure to be criticized by uninformed taxpayers for "putting a coat of just plain black dirt" on that new, low-cost, all-weather playground project. Even after the job is finished, some parent will call up and ask: "When is that surface going to be covered with the *real* black-top?"

The "dirt" referred to is natural rock asphalt. This has been called "miracle dirt" because it looks just like dirt in the stock-pile, but performs miracles as a surface.

Teachers like this smoothest of all-weather surfaces because every gym game can be played on it out of doors, thus relieving the over-crowded gym classes.

Janitors like it because it practically eliminates the mud, dust, and grit which used to ruin the floors when tracked in by the kids.

The neighbors like it because it eliminates dust and that painful glare from the sun (when the yard is covered with white, crushed stone).

Parents like it because of the saving incurred on shoe-soles, clothes, knees, and elbows. One parent claims this all-weather surface is worth five dollars per year, per child, for this reason alone.

Pupils like it because they can always use the grounds for efficient play.

Natural rock asphalt deposits have been found in the earth, but much closer to the surface than coal. It is believed that these deposits were formerly oil pools, where the oil filtered away, leaving the asphaltic residue in the sand.

Since these grains of sand have been saturated for centuries, it will probably take dozens of years for them to dry out, when used as an all-weather surfacing material. A Centralia, Ill., school board member estimates the life of a school playground thus surfaced at 40 years.

Natural rock asphalt is comparatively dry, and is the only "black-top" I have ever seen which will not discolor a tennis ball.

The dryness and the fine grain make an unusually smooth surface,

by O. R. BARKDOLL

ideal for playgrounds and tennis courts. Tennis courts as such will pass out of existence. They will take on the name of "game courts"—tennis in the summer, physical ed playground during the spring and fall, and skating rink in winter.

Natural rock asphalt is not heated when applied; therefore, it is not brittle. If a light roller is used, only the top layer will be compacted, leaving a resilient mat underneath, comfortable to play on for youngsters and adults alike.

Economy is another reason why school administrators like this material for surfacing playgrounds and game courts. The low cost plan for schools devised by the Centralia school board brings the cost within reach of every budget.

Expensive machinery and skilled labor are not necessary. Maintenance men, students, interested dads, and service club members can do the work. There is no need for speed in completing various sections, as is the case with cement and hot machine-mixed asphalt.

Splendid community cooperation at Virden, Ill., produced a basketball court for the elementary school pupils and two tennis courts. The Playground Association bought the material; the school district gave the land; an interested board member donated the trucks and tractor; and high school boys did the work under the direction of Coach M. O. McMullin.

Cullom, Ill., High School seniors unloaded the carload of asphalt during their first week of vacation, as their contribution toward helping the school obtain an "outdoor gym" for mild weather and a skating rink for the colder months.

Rossville, Ill., boys and one adult surfaced two basketball courts. The students helped out during study hall time, before school in the morning from 7 until 9, and again in the afternoon following dismissal.

Seventh and eighth grade boys helped run the straight-edging machine while the surfacing project (Continued on page 69)

Hillyards

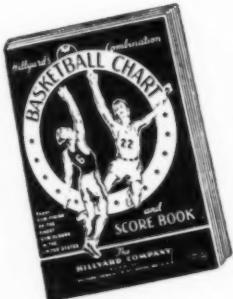
Gym Finish



★ YEARS ON FAMOUS MADISON SQUARE GARDEN FLOOR

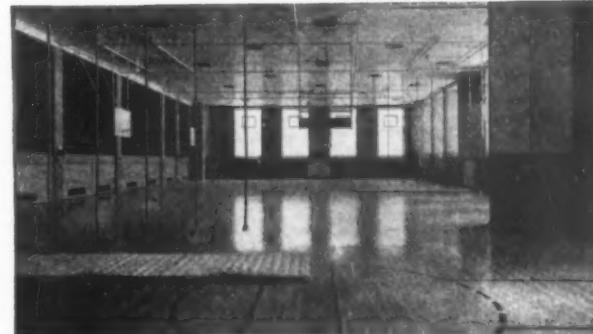
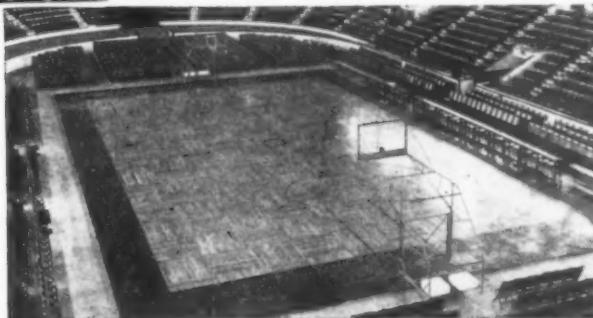
Tops on any GYM FLOOR!

★ For "Star" performance Hillyard's STAR Gym Finish takes the spotlight. On the Nation's most famous Gym floors you will find that Hillyard's famous finish has been used and approved. It produces a beautiful floor easy to maintain and gives the spectators fast, eye-appeal play. More than ever this is the day of specialists and Hillyard Maintaineers are at the top of their profession. There is a Hillyard Trained Floor Treatment Maintainer in your locality. Call or wire us. His advice on any vexing floor treatment or sanitation problem is given with no obligation:



★ FREE to Coaches and Officials, this entirely NEW Basketball Chart and Score Book, in several colors, with new charts and other valuable information on Basketball. Write for your free copy today.

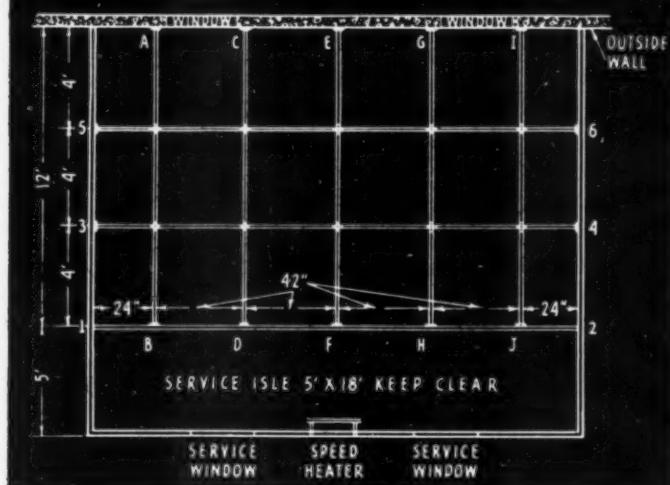
★ Hillyard's STAR Gym Finish with its Non-skid, No-glare, Super-tough surface is the choice of Successful Coaches and Famous Winning Teams. This serviceable finish with its beautiful surface, easy maintenance and long wearing qualities has been used and approved for years and years by many of the Nation's Schools, Colleges, Universities, Public and Private Institutions. The name Hillyard on this product is synonymous with Proper Surface Protection, Longer Life, Lasting Satisfaction and Economical Maintenance. STAR Gym Finish is safe for the players and protects the floor and the investment.



HILLYARD SALES COMPANIES

470 Alabama, St. San Francisco 10, Calif. DISTRIBUTORS HILLYARD CHEMICAL CO. ST. JOSEPH, MO. BRANCHES IN PRINCIPAL CITIES 1517 BROADWAY, NEW YORK 23, N. Y.

Build Your Own Drying Room



By Emil Lamar

AN up-to-date drying room for uniforms and equipment is considered an integral part of every modern athletic plant. Not only does a good drying room assure comfortable, hygienic uniforms for the players, but it also furnishes an economical way to preserve the gear.

Dirt and sweat are enemies of all types of equipment. Accumulations of both deteriorate the materials and often cause serious infections, especially where the boys are forced to wear uniforms that never dry out enough, which is the case in too many of our schools and colleges.

Not until recently have our schools awakened to the fact that drying rooms are a vital essential in the conduct of a safe and sane athletic program.

The tremendous improvements in

both old and new athletic plants reflect the trend toward placing the emphasis on the health of the boys rather than on the winning of games.

A modern, well-equipped drying room also serves to inculcate proper health habits by encouraging the boys to look after their own playing gear.

It is a relatively simple matter to set up a drying room. Any room 17 feet deep and 18 feet wide can easily be converted into a modern drying room which will store and dry 100 football uniforms daily.

Schools whose turnout fluctuates between 100 and 200 men, should look for a room at least 17 feet deep and 36 feet wide. An area of this size, with careful planning, will accommodate 200 uniforms.

A floor plan for a drying room 17 x 20 is shown in the accompanying

illustration. (See above drawing.)

A three-quarter inch galvanized water pipe and fittings are employed for the entire framework, with pipes A-B, C-D, E-F, G-H, and I-J furnishing the horizontal supports for the uniforms.

There are two of each of these pipes so that two sets of uniforms may be suspended one above the other. The five lower pipes are set up 42 inches above floor level, while the five upper pipes are constructed 42 inches directly above and parallel to the lower supports.

This type of construction permits ten uniforms to be hung on each of the upper and lower pipes, making a total of 100 uniforms that can be dried in the room at one time.

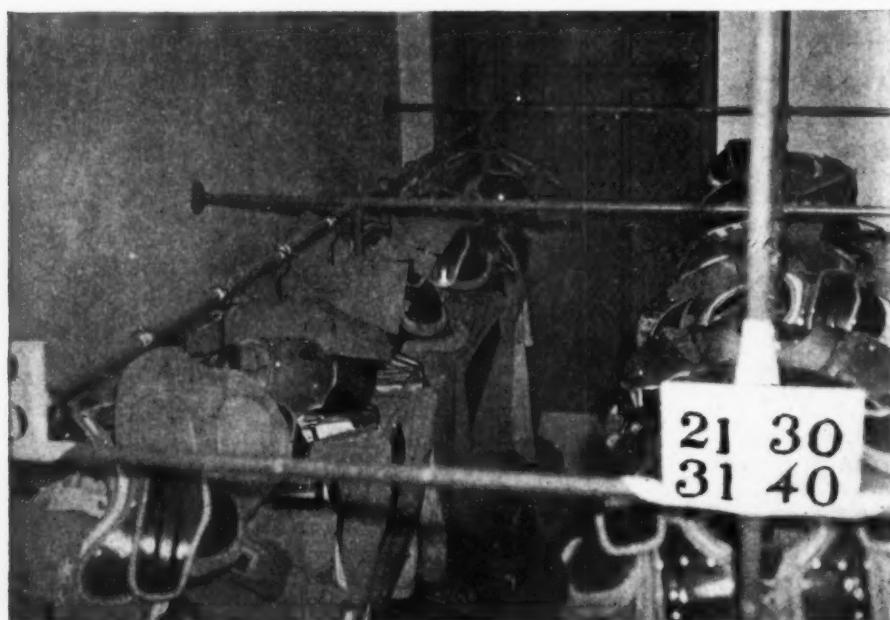
The floor plan shows that, while pipes A-B are placed only 24 inches from the side wall, pipes C-D are spaced 42 inches from and parallel to A-B. The extra room between the middle supports is necessary to permit the managers to move up and down the aisles when issuing and receiving gear from the players.

One of the accompanying pictures shows a simple method of dividing and numbering the supporting pipes which support the uniforms.

The pipes and rows are broken up into units of ten (1-10, 11-20, 21-30, etc.). The numbers are stamped on lightweight metal plates which are fastened at the head of each row. Each horizontal pipe is numbered correspondingly every 14 inches along the top from front to rear, so that each uniform has a specific number.

It then becomes a simple matter to locate a uniform. All the boy has to do is call his number to the manager. The uniform is always suspended in the same place, making the check-in system a masterpiece of simplicity.

To facilitate rapid drying of uniforms, two windows are kept opened at the top at all times.



Simple method of dividing and numbering the supporting pipes.

*More athletes have worn
Bike Supporters than any other brand!*



Famous

BIKE NO. 10 SUPPORTER

First choice of coaches, trainers, athletes. Knitted cotton-and-rayon pouch; 3-inch waistband; 1 1/4-inch leg bands to minimize rolling and curling. Truly a top-quality garment.

The leader for years!

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... more than just "soap and water clean" ... are particularly important during winter months. The most effective Germicide and Fungicide for both Floor Disinfection and Foot Bath solution is

Pomerio 18

... containing buffered Potassium Mercuric Iodide (medically approved) so potent it requires only ONE OUNCE to the gallon of water. This results in

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One gallon of effective solution costs 2.3¢ or less; it is non-volatile, non-irritating and effective for washing, mopping, spraying or sprinkling.

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\$53.00 value for only \$37.50

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POMERIO 18 at \$2.75
per gal. \$33.00
We include one large U. S.
Rubber Foot Bath Tray
20"x25", worth \$25.00
Total Value \$53.00

Special net price \$37.50

POMERIO 18 must be satisfactory or unused portion may be returned for credit.

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CITY _____ STATE _____

These windows are covered on the outside with a heavy galvanized screen, preventing admittance from the outside.

A speed heater is hung on the front wall between the serving windows at a height of about seven feet. This device provides thorough, speedy, economical heating. The fan on the heater drives the heated air wherever it is needed, diffusing it over the entire area of the room.

A 75 size heater is recommended for a room 17 x 18. Remember, however, that to make use of a speed heater it is necessary to have steam installed in the plant.

Schools not equipped with steam-heated gyms may install an electric heater equipped with a fan that can circulate the hot air throughout the room.

The second picture accompanying this article shows a quarter section of the drying room at Berkeley. This room is 18 x 20. The pipe construction gives you a good idea of what a drying room looks like when prepared for use.

The picture was taken at the end of the spring term after the baseball managers had removed all the uniforms. This room serves the football, baseball, and track teams during the year.

It is necessary for certain garments to be laundered more often than others. This applies to supporters, undershirts, and socks. These items should be laundered at least once a week, but oftener if possible.

Before these garments are re-issued, they should be checked over by the managers for repairs. All holes should be repaired at once. Many schools overlook this very important point, and players are often laid up by blisters resulting from imperfect socks.

It is also important to wash all wool equipment in lukewarm water, 110° F., to prevent shrinking. All wool jerseys should be washed the same way or else dry cleaned following every game. Money used for this purpose is well spent, since it prevents the spread of contagious skin diseases.

Frequent cleanings also add life to the garments, as grit and dirt are enemies of woolen fibers, causing them to break.

Managers should be instructed to examine the players' shoes once every two weeks. The shoes should be cleaned with a brush and polished to preserve the leather. Worn-down cleats should be removed and new ones put in their places. The posts should be coated with cup grease to prevent them from getting rusty.

It is also advisable to treat the soles of the shoes with neat's-foot oil to prevent the leather from cracking and to make them damp-resistant.

Emil Lamar, a physical educator at Berkeley (Calif.) High School, is one of the country's foremost authorities on the building of facilities and equipment. He is author of that superlative text, *The Athletic Plant: Layout, Equipment, and Care*.



A quarter section of the drying room at Berkeley High School.

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In the Words of HOWARD CANN, Basketball Coach at New York University:

**"IN MY OPINION, FOR A BASKETBALL
MAN THERE ISN'T ANOTHER CEREAL
THAT MEASURES UP TO
QUAKER OATS!"**



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Famous coaches the nation over realize that one of the most important parts of their job is to direct the eating habits of their teams. Every athlete *must* have the best foods for building muscle and healthy nerves . . . for maintaining energy and endurance. That's why winning coaches recommend breakfasts of delicious, whole-grain Quaker Oats, the cereal named "best-tasting," "best-for-you" in a nationwide poll.

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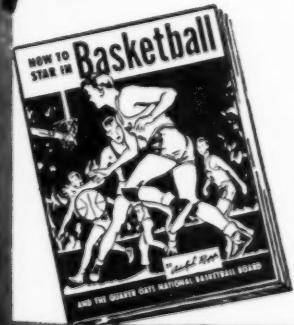


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Please send me FREE copies of "How to Star in Basketball"!

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School Squad Size

Street

City..... Zone.... State.....

Safety in the Gym

THE gymnasium is a wonderful place to relax in—for the student. The administrative staff cannot afford to relax. The danger of injury to the participants is too great.

Look at the statistics: During the past year (1947), 23% of all the accidents on school premises occurred within the province of the gym. Nineteen percent of these accidents took place in the gym proper, another 2% in the swimming pool or showers, and the other 2% in the dressing rooms.

The situation obviously calls for a sound program of safety education. Here is a practical comprehensive list of precautions which, if observed, will help reduce the injury incidence in the gym.

FOR THE ADMINISTRATOR

1. Adapt all gym activities to the physical needs and abilities of the students. Test individual skills so that students will not attempt skills out of their range.

2. Be sure that the first lesson in any activity demonstrates the safe way of performing the activity.

3. Supervise the use of all apparatus or equipment. In this case, "supervise" is interpreted to mean that the teacher is in the room or on the playfield with the class.

4. Make sure every instruction is clearly understood before continuing to another.

5. Do not allow hard-soled shoes except for such activities as social and tap dancing.

6. Be sure that each student fastens his gym shoes securely. Laces should be shortened to avoid tripping.

7. If a student must wear eyeglasses all the time, adjust gym activities to his handicap. Investigate the possibility of using non-breakable glasses.

8. Explain to students that bracelets, rings, pencils, pens, watches, etc., should be removed because these articles may cause bruises, scratches or cuts.

9. Emphasize the danger of unusually long finger nails.

10. When small groups are carrying on various activities at the same time, see that each group occupies an area where its activities will not interfere with other stu-

- dents, equipment, or walls.

11. Do not allow students to climb up to get objects which are lodged between the beams or rafters.

PHYSICAL EQUIPMENT—GENERAL

12. The gym should be built according to safe construction standards as well as safe game standards. There should be sufficient space between the sidelines, the endlines and the lower tier of bleachers to prevent players from running into the bleachers.

13. All doors should open outward.

14. The head of the department should inspect all apparatus at the beginning of each semester.

15. Eliminate all objects which project from walls. Screen and recess drinking fountains and radiators. Screen windows and lights. Do not fasten ropes or nets to screens.

16. Try to avoid placing desks, tables, chairs or other obstructions in gym or swimming pool room. If there is no other place for this equipment, be sure to put the equipment in the safest possible place removed from all traffic.

17. When a piano is not in use, place it against the wall.

18. Never ask pupils to carry or move any heavy object such as a piano. They may rupture themselves from overexertion.

19. Place window poles where they cannot fall or be tripped over.

20. Plan classes small enough to allow each student plenty of room so that he will not interfere with another student's activity. Allow sufficient space for peak loads either by increasing space or decreasing the load.

21. Be sure the floor is made of materials that will reduce slipping to a minimum. Repair loose boards and eliminate splinters.

22. Use mats whenever possible.

SHOWERS AND LOCKER ROOMS

23. See that all showers and locker rooms are under the direct supervision of a bath attendant, matron or teacher.

24. The attendant, not the stu-



"When covering a large floor area, place gym mats edge to edge."

It's EASY
to service

CROUSE-HINDS

Type RPS Underwater Floodlight

Just remove four cover screws, pull a plug and withdraw the lamp assembly. It's as simple as that!

It pays to install the modern Crouse-Hinds type RPS easy-to-service underwater floodlights because relamping is so simple and the savings in maintenance time go on and on, year after year for the life of the installation.

Easy servicing is just one of the many advantages you get by installing this up-to-the-minute postwar floodlight. You also save money on installation time as well as construction costs because there is

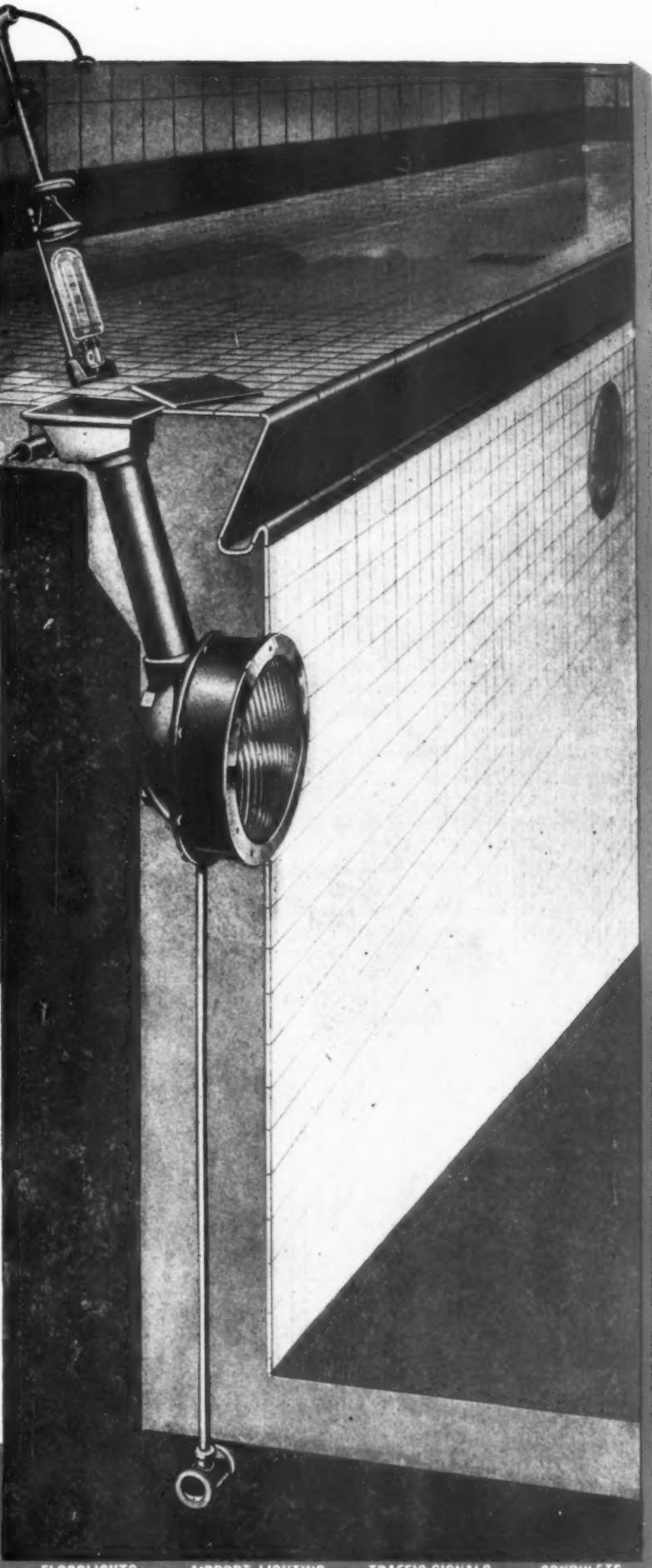
**NO Manhole to build
NO Passageway required
NO Wet niche needed**

The entire unit can be built right into the pool wall. The flush floor box is connected to the floodlight by a large tube through which the lamp assembly can be withdrawn for easy relamping. The beam of light can be raised or lowered by a control located in the floor box.

If you have a passageway around the pool wall or if manholes are available, Crouse-Hinds also has an underwater floodlight especially designed for such an installation Type SPS.

There are three Crouse-Hinds floodlights for the overhead lighting of swimming pools: Type MUA Alumalux provides adequate light at minimum first cost; Type ADE Heavy Duty gives perfect light control with low maintenance cost; Type GCP-14 is an ornamental lantern floodlight for use where appearance is an important factor.

Write for additional information on Crouse-Hinds swimming pool floodlights and their application to your pool.



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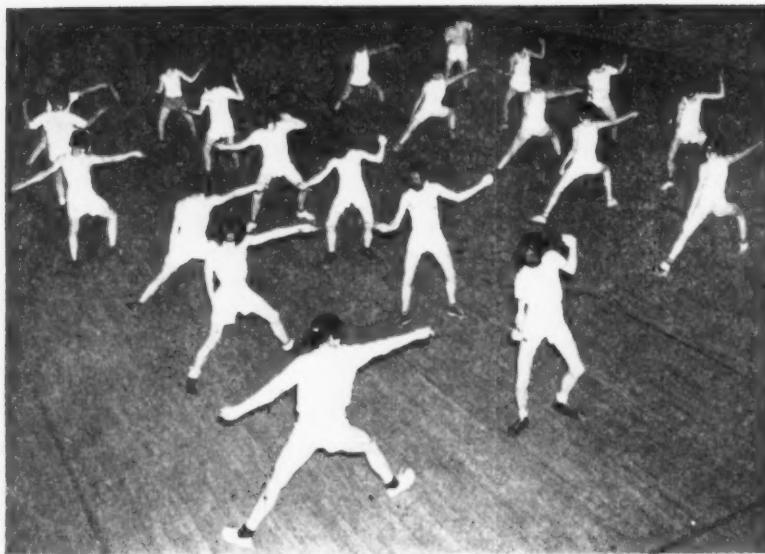
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FLOODLIGHTS

AIRPORT LIGHTING

TRAFFIC SIGNALS

CONDULETS



"Be sure the gym floor reduces slipping to a minimum."

dents, should control the master shower regulator.

25. Attendants should never allow a layer of soap to accumulate on the shower room floor.

26. Light switches should be placed away from shower areas.

27. Be sure that locker and shower room floors are made of nonslip floor materials that can easily be cleaned.

28. See that each shower stall has a floor mat and soap dish.

29. Have enough space in the locker room so that movement can be free and uncongested.

30. Arrange benches so that there is plenty of room for a passageway.

31. Inspect benches frequently to see that they are free from splinters, protruding nails and sharp corners.

32. See that all water and steam pipes are placed out of reach of students.

33. Be sure that there is enough room between shower heads so that students will not bump into each other.

34. Rules for students in showers and locker rooms:

- (a) Do not run.
- (b) Do not stand on benches.
- (c) Do not snap towels.
- (d) Do not swing or hang from bars or pipes in the shower room or locker room.
- (e) Keep locker doors closed when not in use.

SPECIAL ACTIVITIES

35. **High Jump**—When you demonstrate the high jump, stress the danger of falling backwards on the arm.

36. Do not allow students to jump in leather shoes. They should jump in gym shoes only.

37. Allow at least 10 feet of clear-

ance to the side and 20 feet beyond the jump standards.

38. Place standards so that the extended pin which supports the crossbar is away from the jumper.

39. Make a rule that pupils in charge of the crossbar must stand on the "take-off" side.

40. Inspect crossbars for dangerous splinters or sharp ends. You can prevent splintering by taping crossbar ends.

41. See that sand or dirt in high-jump pits is well-loosened and free from stones or glass.

42. Keep the path of the jumper clear.

43. **Hurdles**—Place hurdles five feet from side walls or other obstructions.

44. Set the finish line 20 feet or more from the end wall.

45. When you have a group of beginners, use hurdles which have light, movable crossbars, instead of swinging hurdles.

46. Inspect crossbars for splinters or sharp ends.

47. If you use the swinging type hurdle, leave it locked during practice so that it will fall freely.

48. Rope off the hurdle lane in a crowded gymnasium.

49. **Baseball**—Make a rule that any batter who throws his bat is automatically "out."

50. Instruct all players that batters awaiting their turn should line up on the side of the home plate facing the batter.

51. Prohibit all sliding into base.

52. Do not use either playground or hard-ball bats in gym unless a small group is occupying the gym alone and is directly supervised.

53. To avoid collision, instruct players to call for fly balls.

54. Show players how to catch baseballs above the waistline with fingers pointing upward; below the waistline with fingers pointing downward.

55. Locate diamonds so that baseballs will not go into the streets.

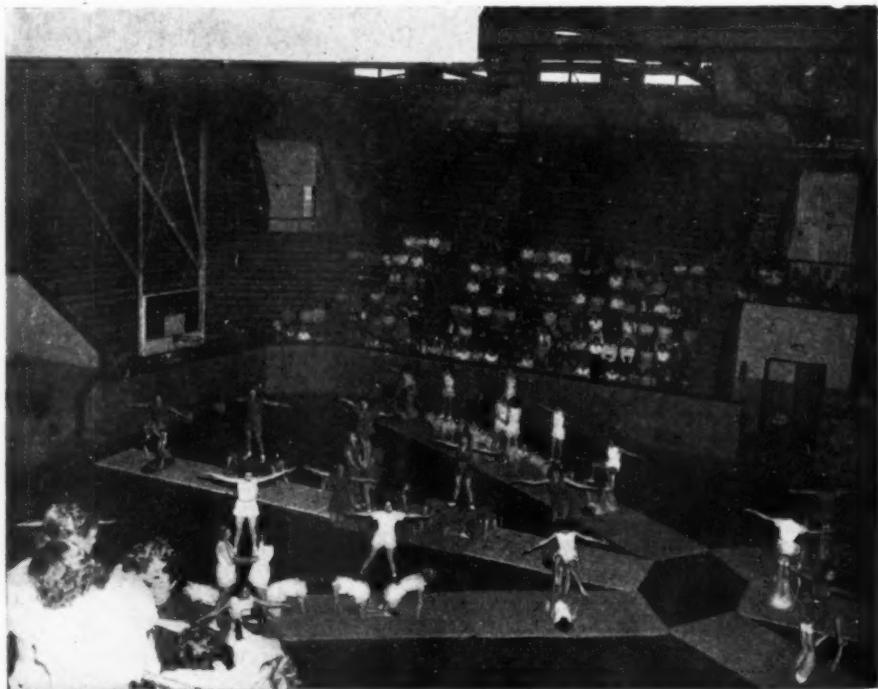
56. **Broad Jump**—Be sure that the running broad jump and running hop, step and jump is always practiced outdoors, never indoors.

57. Be sure that sand or dirt in jump pits is well loosened and free from stones or glass.

58. Sprinkle the take-off board with lime and keep board flush with the ground.

59. Be sure the way is clear before a jump is made.

(Concluded on page 40)



"Gym areas should allow plenty of room for freedom of activity."



If the Best is
None Too Good for Your Team
you need *Wagner's*
ALL-STAR Sports Line

You get extra appearance, greater safety and longer life in this complete line of modern canvas specialties for gym and athletic field. Many of the country's most careful scholastic buyers depend on the WAGNER trade-mark as their assurance of top quality and long service. More than 83 years of experience is back of Wagner canvas craftsmanship and design.

Gluttons for Punishment . . . Veterans for Service

This new and rugged gym mat will stand the gaff for many years. It is a leader in this all-star line because it is double-tufted and compression tied, yet soft, safe and needle free. Covered with No. 6 or No. 8 sturdy duck, and filled with genuine Gym Mat Felt or 100% Goat Hair as desired. Wagner mats are available for every indoor sport in all standard or special sizes.

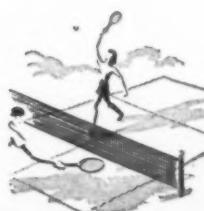
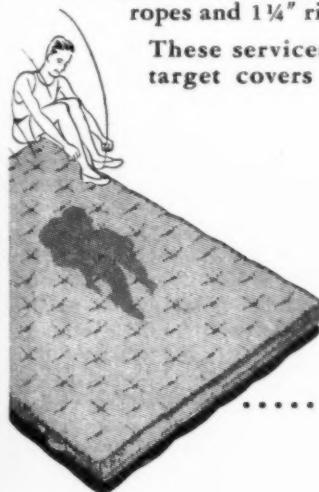
You'll like Wagner's washable, well-constructed punching bags, of No. 6 or No. 8 white duck, one seam, double stitched, with $\frac{3}{4}$ " rings for ropes and $1\frac{1}{4}$ " ring at top to hang bag.

These serviceable, white sateen archery target covers are easily installed, and

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Wagner's shower curtains, of 8 oz. bleached duck are partially pre-shrunk, of the proper weight to give long service, but light enough to dry quickly, are standard in many school gyms.

You'll be pleased with the weather-resistant material and careful craftsmanship that go into Wagner's outdoor line. Sturdy tennis nets, rugged field enclosures and side walls, football and baseball field covers, all types of flags and pennants are made by Wagner to deliver long service in any climate.

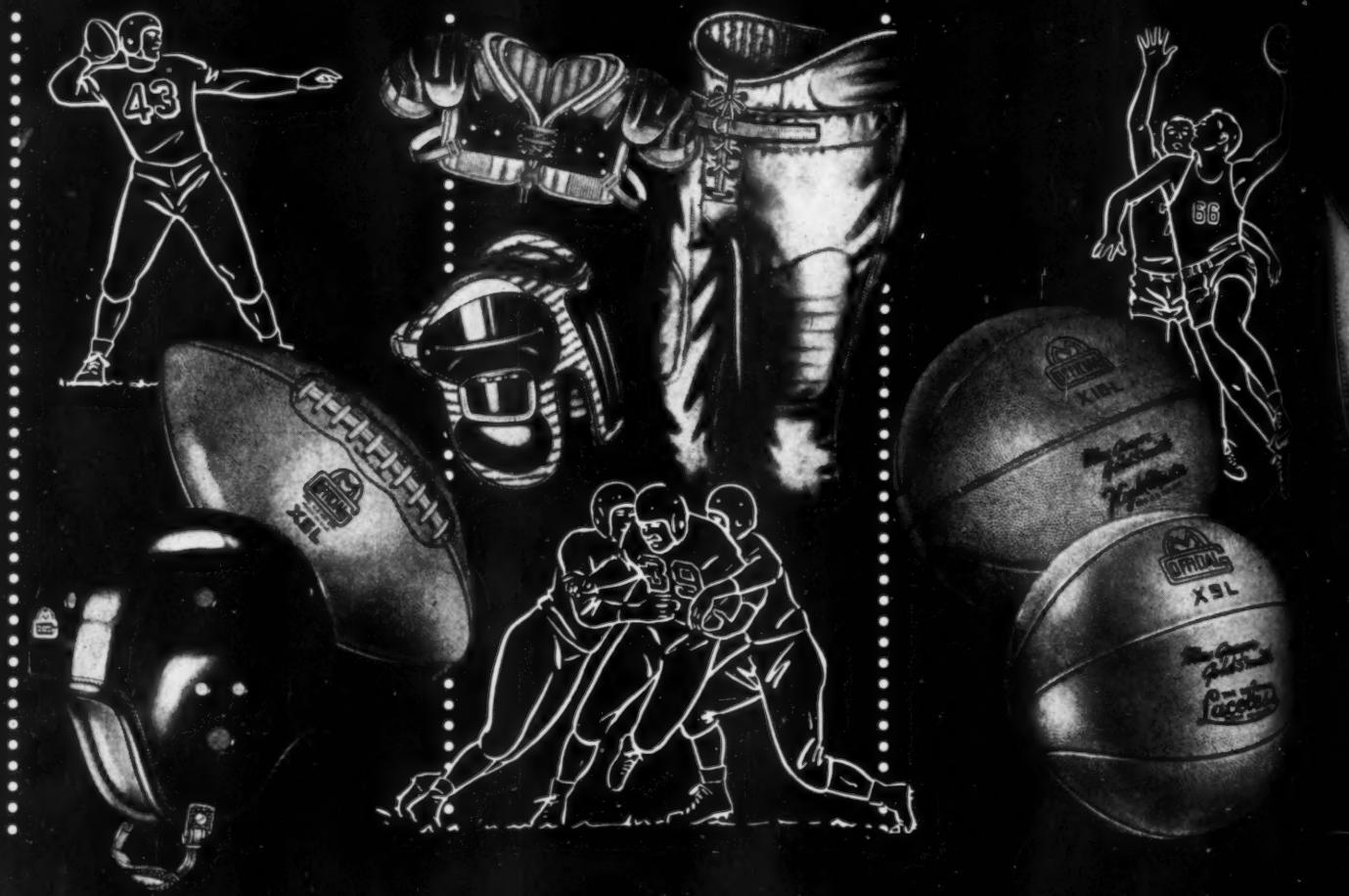


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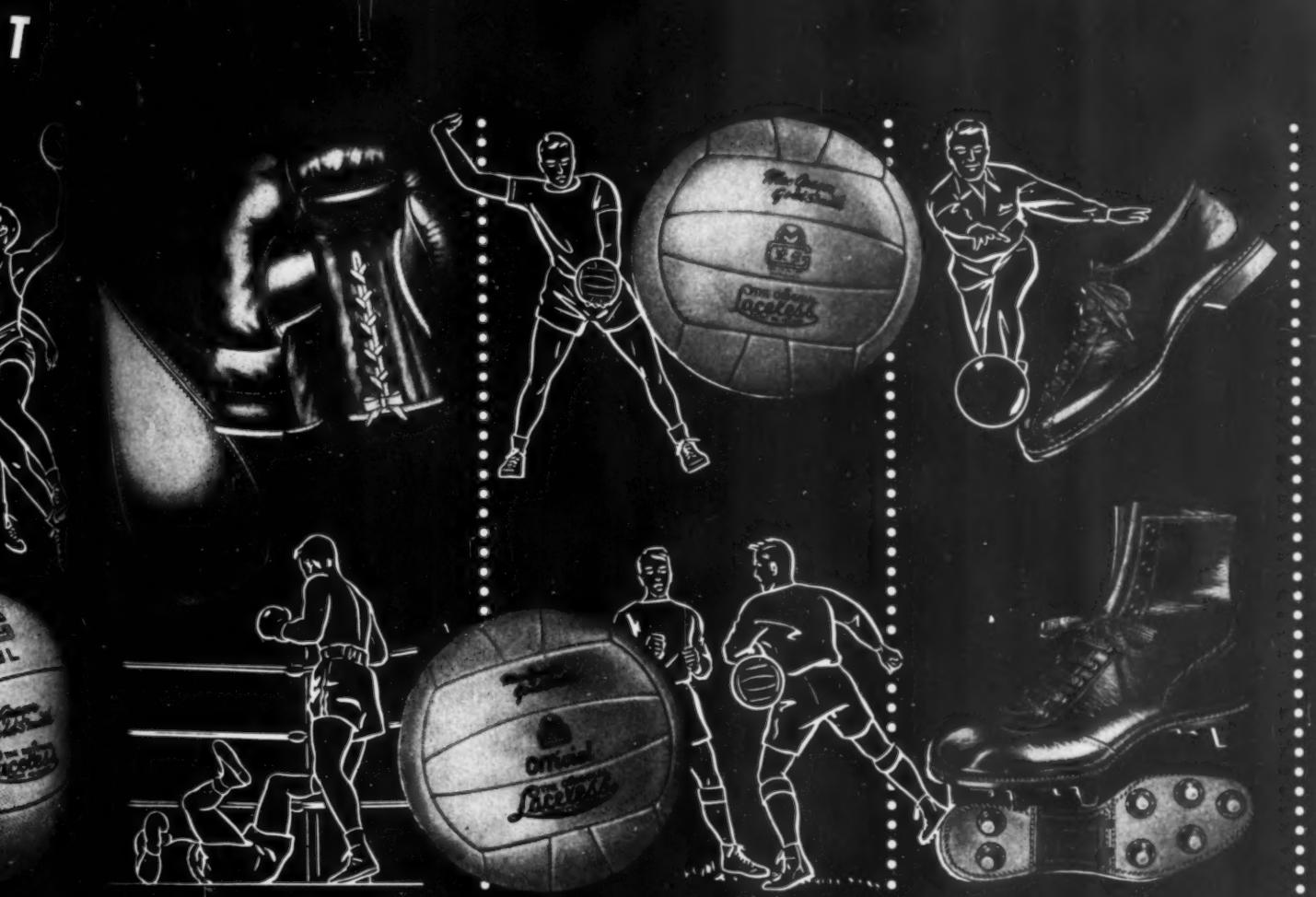
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THE EQUIPMENT PROBLEM

By KENNETH G. SULLIVAN

ALTHOUGH the purchase and care of athletic equipment is a vital school concern, involving large sums of money and perspicacious planning, bookkeeping and organization, many schools persist in treating the problem in an astonishingly slip-shod fashion.

True, these schools "get by." But are they getting the most out of the money and time invested? Hardly.

Let us see how a few simple safeguards can vastly improve the equipment set-up in most schools.

Efficiency in the purchase of supplies and equipment involves a careful study of community and school needs, existing prices, the quality of workmanship, and satisfactory materials.

Most small public schools delegate this responsibility to the director of physical education. This system, while still effective in some situations, is no longer satisfactory as a general practice.

Only a short time ago, a large city noted for its educational prominence, made this stipulation in its printed directions to physical education teachers: "Instructors shall sell no supplies or equipment of any kind to students."

For the good of all concerned, our physical education teachers and coaches should be taken out of the clothing business.

The average coach believes that only he is qualified to select the right-fitting shoe, the proper-sized helmet, or the well-knit sweatshirt. No one will deny that the coach knows his equipment or that he has a right to recommend the type of equipment to be purchased. But the fact remains that the average school coach is not a shrewd buyer.

The purchase of all school equipment and supplies should pass through a central office presided over by a business manager or purchasing agent. This set-up is both economical and effective.

In a well-regulated system, it is the agent's duty to keep adequate records relating to the standardization of materials, requisition blanks, and a card index of supply houses. A good record system greatly facilitates the purchasing problem.

The agent also checks the materials upon arrival for quantity and quality, routes them to their proper destination, and assures prompt payment of bills.

The business manager, faculty director of athletics, or whoever is entrusted with this responsibility, should be guided in the selection of goods by the departmental director or coach, who should recommend the amount and quality of equipment needed.

But the actual buying of all supplies and athletic material is most

efficiently and economically effected when delegated to a specialist in the field.

From experience the writer has uncovered some valuable facts that may assist others in the same field.

First, if possible, plan your purchases two or three years in advance. While this will necessitate the standardization of your equipment, it will insure quicker delivery, cheaper prices, and easy replacements.

Second, stay away from flashy colors, especially in the lighter shades, unless you can afford new uniforms each year.

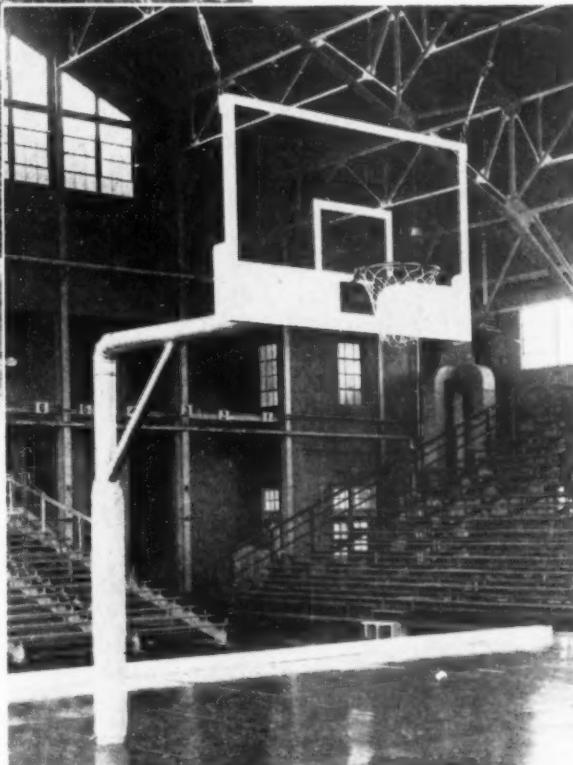
Third, avoid mixing materials—such as cotton and wool, cotton and silk. Dyes do not affect different materials the same way, and constant washing and reconditioning of mixed materials may eventually give the equipment a bizarre appearance.

Fourth, don't be too proud; secure the advice of salesmen who are specialists in this field.

Fifth, avoid inside discounts and

Kenneth G. Sullivan is director of physical education at Longmeadow, Mass.

in 25 years...



NEW INDIANA UNIVERSITY INSTALLATION. Pictured above, is the new installation of Nurre Plate Glass Banks at Indiana University, showing a new type suspension that has greatly increased visibility for end-of-court spectators and lessened chances of injury to players. Branch McCracken says "This is the finest installation of basket ball banks I have ever seen."

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have never been
broken in play!

Made from thick polished plate glass, correctly produced for this purpose, and properly mounted, Nurre Plate Glass Banks have stood the test for a quarter century and have never been broken in play.

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- An Entirely New Principle
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Projects Score on Ceramic Coated Glass
Readable at 300 ft.

Here is a great help to spectators, players and scorekeepers. Coaches everywhere say, "Shadograf is a great development." Here are some of the advantages:

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Anyone with a working knowledge of basketball can operate Shadograf immediately. The control panel is amazingly simple and very clearly marked.

Two reverse buttons, one for the home team, one for visitors; reset button clears the board and turns off projection lamps. Not a thing for operator to figure out.

Easy-to-Read Scoreboard

Large 21" timer with 8 bulbs behind a durable plastic face, the numerals lettered in black. Quarter numerals in white on black, illuminated. Panels showing score are ceramic coated glass which serve as a screen for 9½" numerals that are projected from rear. Measurement: 52½" long x 32½" high x 12" deep.

For further information write

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concessions, and purchase equipment from well-known firms.

Sixth, if local dealers do not render equal service for the same or less money as nationally-known houses, business relations should be discontinued.

Seventh, any inferior or defective materials which do not meet specifications should be returned promptly.

It might also be added that efficient purchasing means obtaining the best article at the lowest price, not the cheapest price.

The National Federation of State High School Athletic Associations has done some very helpful work in establishing basic standards. They have appealed to sporting goods manufacturers to produce first-grade merchandise (inflated goods) at lower costs to high schools.

The Federation has also studied safety equipment in athletics, and the merchandise meeting their approval in this respect is stamped "National Federation Approved."

No matter where the funds for the purchase of athletic equipment come from, the athletic and physical education department should be concerned with its proper use.

Athletics, like any well-run business, should have an orderly and efficient bookkeeping system, which should account for each article from the time it is purchased until it ceases to be of service. Students to whom equipment is loaned should

have an individual record card which contains a list of the articles received, date of issue, and condition of material.

The card should be signed by the student in the presence of the coach or whoever is in charge, and the player's account should be cancelled when his equipment is returned in proper condition.

This individual card system prevents theft, loss, and misuse of material. Respect for and care of property should be one of the lessons a participant receives from athletics.

At the close of a sports season, all equipment should be collected, cleaned, repaired, and stored for future use. This procedure adds to the life of the equipment and saves money in the long run.

India ink and stencil paint are the two methods most in use for marking equipment. School identification labels are also utilized in some schools.

For branding leather goods, many schools are effectively employing stencil paint and a new type of electric scoring pencil.

Air-tight bins or trunks should be utilized for the storage of woolen goods, which should always be moth-treated. Cotton goods may be wrapped and stacked on shelves or in bins.

The equipment should be stored in a cool, dry, and sanitary room with a proper place for everything and everything in its proper place.

Safety in the Gymnasium

(Continued from page 34)

60. **Climbing Ropes**—Do not allow pupils to hold the lower end of a rope while another pupil is climbing.

61. Caution students against swinging on the ropes.

62. Keep students a safe distance from the lower end of the rope so that they can avoid being "flipped."

63. Warn students against over-exerting themselves.

64. Do not allow students to hang or swing from the beam at the top of the rope.

65. Caution students to come down the rope hand over hand. Sliding may produce friction burns.

66. Be sure to use mats in all rope climbing activities.

67. Permit only one person on a rope at a time.

68. **Relays**—Place teams far enough apart to prevent collisions between participants.

69. Set the finish line at least

10 feet from the end wall. This should be a chalk line; do not use walls or lockers for the finish.

70. See that the team is on the runner's right on the return run. The runner will then be able to pass the baton with the right hand.

71. **Chinning Bar**—Allow only one pupil at a time on the bar.

72. Always place a mat beneath the bar when it is being used.

73. Inspect the bar periodically.

74. The teacher should be especially careful to supervise this activity during free play.

75. **Traveling Rings**—Be sure that students use these rings only for traveling.

76. See that students travel in one direction only.

77. Do not permit excessive swinging between rings.

This article is reprinted from the December 1947 issue of *Safety Education*, published by the School and College Division of the National Safety Council.



RIDDELL for '48



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Select Film Titles

THE development of the motion picture as an educational device represents one of the most significant trends in the field of coaching. The modern sport film offers a quick, stimulating and highly effective means of inculcating the proper playing habits, and more and more coaches are incorporating these films into their teaching syllabus.

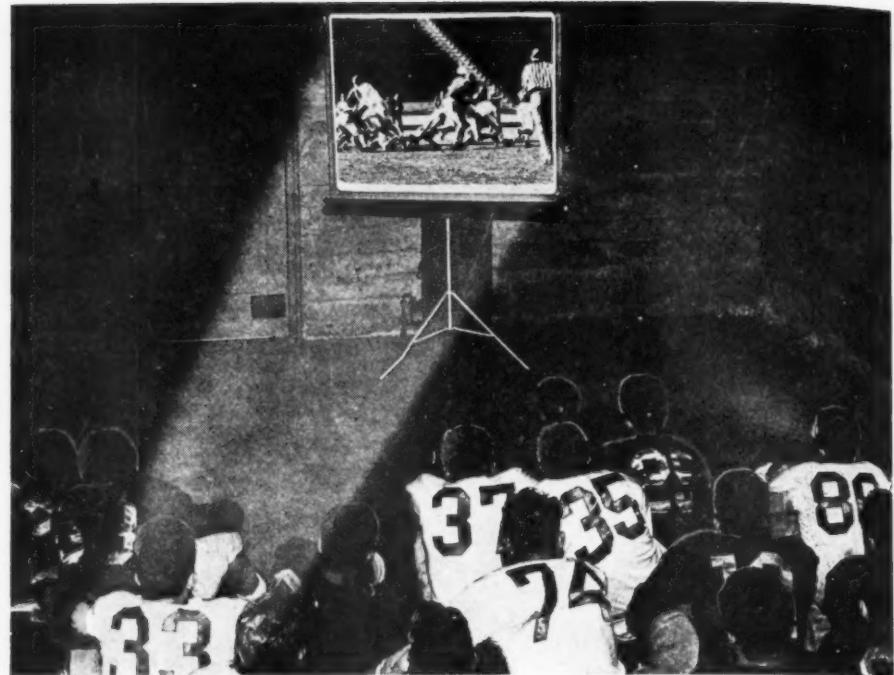
The growing popularity of these aids is reflected in the huge number of requests *Scholastic Coach* has been receiving for information pertaining to available sports films. It is in answer to this demand that the following select film bibliography is offered.

Nearly all these titles are of current vintage and every one of them is available. Unless otherwise indicated, they come in 16-mm. sound. Where they have been reviewed in *Scholastic Coach*, the specific issue is indicated so that the reader may check back for fuller information.

Great pains have been taken to assure the accuracy of the statistical information (running time, price, rental). But it is realized that some errors have probably slipped in. All the information may be checked with the distributors, whose addresses are given at the end of the bibliography.

The distributors will also tell you whether their films may be obtained on a rental basis. (In most of the listings, only the purchase price is given.)

For the most comprehensive listing of sports and physical education



films available, *Scholastic Coach* unhesitatingly recommends *Sports, Physical Education, and Recreation Film Guide*. This guide lists over 800 titles, and may be purchased for 50¢ from The Athletic Institute, 209 S. State St., Chicago 4, Ill.

BASEBALL

Batting Fundamentals. 11 min. Color, \$75. Black and white, \$45. Coronet.

Batting Stars of Baseball. 30 min. Free. American-National Leagues, Spalding.

Catching in Baseball. 20 min. \$45. Encyclopaedia Britannica. (Reviewed in April 1947.)

Catching Fundamentals. (Mike Tresh). 10 min. Color, \$75. Black and White, \$45. Coronet. (Reviewed in February 1947.)

Circling the Bases. 20 min. Free. American League, Spalding.

Hitting in Baseball. 20 min. \$45. Encyclopaedia Britannica. (Reviewed in April 1947.)

Inside Baseball. 30 min. Free. American League, Hillerich-Bradsby.

Pitching Stars of Baseball. 30 min. Free. American-National Leagues, Spalding.

Play Ball, Son. Sound unit, 20 min., \$100. Silent unit, 10 min., \$50. Young America. (Reviewed in September 1946.)

Swing King (Ted Williams). 22 min. Free. Wilson.

Throwing in Baseball. 20 min. \$45. Encyclopaedia Britannica. (Reviewed in April 1947.)

World Series of 1947. 35 min. Free. American-National Leagues, Spalding, Hillerich-Bradsby.

BASKETBALL

Ball-Handling in Basketball. 20 min. \$45. Encyclopaedia Britannica. (Reviewed in October 1946.)

Basketball By-the-Code. 30 min. Serv. chg., \$4. Official Films, National Federation, General Mills, Wilson.

Basketball Up-to-Date. 30 min. Serv. chg., \$4. Official Films, National Federation, Wilson, General Mills. (Reviewed in October 1946.)

Championship Basketball (Nat Holman). 11 min. \$17.50. Official Films. (Reviewed in October 1946.)

Defensive Footwork in Basketball. 20 min. \$45. Encyclopaedia Britannica. (Reviewed in October 1946.)

Fundamentals of Basketball. 15 min. (Branch McCracken). \$65. Coronet.

Play Championship Basketball (Oklahoma A. & M.). 6 reels., 62 min. \$150. Rental: \$12.50 per day; \$25 per week. Association Films. (Reviewed in November 1946.)

Shooting in Basketball. 20 min. \$45. Encyclopaedia Britannica. (Reviewed in October 1946.)

FOOTBALL

Ball-Handling in Football. 20 min. \$45. Encyclopaedia Britannica. (Reviewed in September 1946.)

Blocking in Football. 20 min. \$45. Encyclopaedia Britannica. (Reviewed in September 1946.)

Defensive Football. 12 min. \$25. Official Films. (Reviewed in October 1946.)

Football By-the-Code. 30 min. Serv. chg., \$4. Official Films, National Federation, General Mills, Wilson.

Football Up-to-date. 30 min. Serv. chg., \$4. Official Films, National Federation, Wilson, General Mills. (Reviewed in September 1946.)

Inside Football (Pro Stars). 20 min. Free. Spalding. (Reviewed in September 1946.)

Offensive Football. 12 min. \$25. Official Films. (Reviewed in October 1946.)

The T Formation (Pro Teams). 2 reels. 20 min. \$150. Gallagher Films. (Reviewed in October 1947.)



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The T Formation (Yale, Odell). 14 Film Strips. \$50. Jam Handy. (Reviewed in October 1946.)

Tackling in Football. 20 min. \$45. Encyclopaedia Britannica. (Reviewed in September 1946.)

West Point Championship Football. 6 reels, 62 min. \$150. Rental: \$12.50 per day; \$25 per week. Association Films. (Reviewed in June 1946.)

World Series of Football (4 Pro Playoffs). 35 min. Free. Wilson.

SWIMMING-DIVING

Advanced Swimming. 12 min. Color, \$75. Black and white, \$25. Official Films. (Reviewed in November 1946.)

Diving Fundamentals. 12 min. Color, \$75. Black and white, \$25. Official Films. (Reviewed in November 1946.)

Life Saving and Resuscitation. 15 min. \$24. Encyclopaedia Britannica.

Matt Mann's Swimming Techniques for Boys. 18 min. Color, \$125. Black and white, \$76.50. Coronet.

Matt Mann's Swimming Techniques for Girls. 11 min. Color, \$75. Black and white, \$45. Coronet.

Springboard Techniques (Mike Peppe). 10 min. Color, \$75. Black and white, \$45. Coronet.

Swimming for Beginners. 12 min. Color, \$75. Black and white, \$25. Official Films. (Reviewed in November 1946.)

TENNIS

Advanced Tennis (Bill Tilden). 12 min. Color, \$75. Black and white, \$25. Official Films. (Reviewed in November 1946.)

Centred on Wimbledon. 25 min. Free. General Sportcraft.

Tennis for Beginners (Bill Tilden). 12 min. Color, \$75. Black and white, \$25. Official Films. (Reviewed in November 1946.)

TRAINING

Athletic Injuries: Prevention and Care (Carl Erickson). 35 min. Free. Bike Web. (Reviewed in September 1946.)

Care of Athletic Types of Injuries. 45 min. Free. Becton-Dickinson.

TRACK and FIELD

Broad Jump (Dean Cromwell). 11 min. \$45. Coronet. (Reviewed in April 1947.)

High Jump (Dean Cromwell). 11 min. \$45. Coronet. (Reviewed in April 1947.)

Jumps and Pole Vault (Cromwell-Hamilton-Robertson). 11 min. \$50. Encyclopaedia Britannica.

Pole Vault (Dean Cromwell). 11 min. \$45. Coronet. (Reviewed in April 1947.)

Track and Field Series (National Champions). 11 events. \$45, each. \$475, total unit. United World Films. (To be reviewed in February.)

Weight Events. 11 min. \$50. Encyclopaedia Britannica.

OTHER SPORTS

Badminton, Let's Play (Ken David-son). 17 min. Rental, free. Sale: color, \$112.50; black and white, \$37.50. General Sportcraft. (Reviewed in February 1947.)

Fencing, Theory and Practice of (Julio Martinez Castello). 10 min. Silent. Free (\$10 deposit required). Castello.

Golf: Slamming Sam Snead. 10 min. Free. Wilson.

Golf, Keystone of (Bobby Jones). 30 min. Free. Spalding.

Gymnastics: Beginning Tumbling. 11 min. Color, \$75. Black and white, \$45. Coronet.

Gymnastics: Simple Stunts. 10 min. Color, \$75. Black and white, \$45. Coronet. (Reviewed in November 1946.)

Physical Education: Posture and Exercise. 10 min. \$50. Encyclopaedia Britannica.

Riflery: Trigger Happy Harry. 25 min. Rental, \$5. Sale, \$125. National Rifle Assn. (Reviewed in November 1946.)

Soccer Techniques. 6 reels. Rental, \$2 each. Sale, \$40 each. United World Films.

Softball, Play. 35-mm. Slide Film. \$3.50. Association Films, Look Magazine.

Volleyball, Play. 20 min. Rental, \$3. Sale, \$55. Association Films.

Volleyball for Boys. 10 min. \$45. Coronet. (Reviewed in April 1947.)

GUIDE TO DISTRIBUTORS

American-National Leagues, 64 E. Jackson Blvd., Chicago 4, Ill.

Association Films—YMCA Motion Picture Film Bureau, 347 Madison Ave., New York 17, N.Y.

Becton, Dickinson & Co., Rutherford, N.J.

Bike Web Mfg. Co., 2500 So. Dearborn St., Chicago 16, Ill.

Castello Fencing Equipment Co., 232 E. 9 St., New York, N.Y.

Coronet Instructional Films, 65 E. South Water St., Chicago 11, Ill.

Encyclopaedia Britannica Films, 20 N. Wacker Dr., Chicago 6, Ill.

Gallagher Films, 113 So. Washington St., Green Bay, Wis.

General Mills, Chamber of Commerce Bldg., Minneapolis 15, Minn.

General Sportcraft Co., 215 Fourth Ave., New York, N.Y.

Jam Handy Org., 2821 E. Grand Blvd., Detroit 11, Mich.

National Federation, 7 So. Dearborn St., Chicago 3, Ill.

National Rifle Assn., 1617 Rhode Island Ave., Washington 6, D.C.

Official Films, 25 West 45 St., New York 19, N.Y.

Spalding & Bros., A. G., 19 Beekman St., New York 8, N.Y.

United World Films, 445 Park Ave., New York, N.Y.

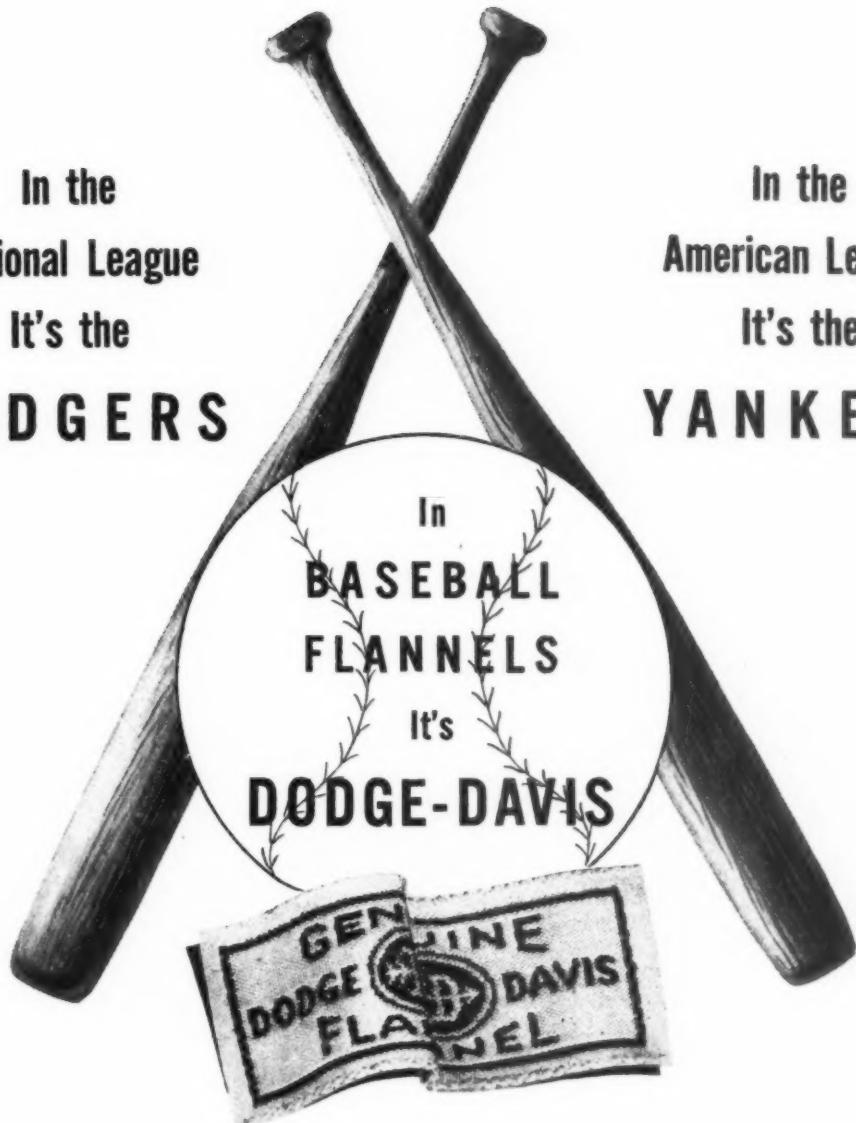
Young America Films, 32 East 57 St., New York 22, N.Y.

Wilson Sporting Goods, 2037 N. Campbell, Chicago 47, Ill.

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New Books on the Sport Shelf

- **A GUIDE FOR PLANNING FACILITIES FOR ATHLETICS, RECREATION, PHYSICAL AND HEALTH EDUCATION.** By Participants in National Facilities Conference. Pp. 127. Illustrated—tables and floor plans. Chicago: The Athletic Institute. \$1.50.

EVERYBODY interested in the functional planning of facilities will find this guide of tremendous practical value.

The book is based on the standards set up by the National Conference on Facilities, and hence represents the best thinking of a diverse group of authorities, including school and college administrators and physical educators, community recreation experts, architects, engineers, and city planners.

The manual covers nine major areas: (1) Community Planning As It Relates to Athletics, Recreation, Physical and Health Education; (2) Outdoor Facilities; (3) Indoor Instruction - Recreation Facilities; (4) Health Service and Health Education Facilities; (5) Service and Administrative Facilities; (6) Supplementary Indoor Recreation Facilities; (7) Swimming Pools; (8) Stadium and Field House; and (9) General Building Features.

The manual stresses the need for cooperative (school and community) planning and for making use of existing resources. The material is clearly projected in a manner ideally suited to the school man.

Fourteen national agencies sponsored the project and 54 outstanding individuals from every part of the country participated in it. Among the National Federation representatives were C. E. Forsythe (Mich.), T. C. Ferguson (Md.), and George W. Ayars (Del.).

The book may be secured at cost price (\$1.50) by writing to The Athletic Institute, 220 South State St., Chicago 3, Ill.

- **KINESIOLOGY HANDBOOK (A Study Guide and Laboratory Manual).** By M. Gladys Scott. Pp. 148. Illustrated—drawings. New York: F. S. Crofts & Co. \$2.

ONLY the most exceptional kinesiology student can read a text and at the same time perceive its significant implications to his ultimate goal of success in massage, remedial gymnastics, teaching of sports, or other work.

That, in brief, is the purpose of this handbook. It provides for 15 to 20 daily assignments, 9 demonstrations, 5 to 11 laboratory projects, and 4 to 10 long-term studies—all with alternate procedures suggested to fit the time and facilities available for each class.

By permitting the student to see, feel and experiment for himself, this

ingenious laboratory approach does much to dispel the mysteries of kinesiology. What's more the student will remember his course.

The book is divided into three main parts. Part 1 is designed mostly as an anatomical and physiological review in preparation for kinesiological application.

The lessons in Part 2 are designed to parallel the study and class discussion throughout the kinesiology course, and are aimed at giving the student experience in connection with the principles discussed and thereby help him to retain that information.

Part 3 offers the long-term experiments—those not suited to a single day's laboratory.

All the lessons are graphically and absorbingly presented, and will definitely aid the instructor in putting over the course.

Since the workbook is designed primarily as a supplement to Dr. Scott's text, *Analysis of Human Motion*, it parallels the book very closely in topics and outline. However, it will prove useful in courses other than those organized around this text.

- **COMPETITIVE SWIMMING AND DIVING (Third Printing).** By David A. Armbruster, Sr. Pp. 301. Illustrated—drawings. St. Louis: The C. V. Mosby Co. \$4.

PUBLISHED originally in 1942, David Armbruster's text is still a dandy, one of the very best in the field. Coaches, swimmers, and divers will paddle very happily through it, finding everything they're looking for.

The book is broken down into 10 big chapters: Start, Sprint Crawl, Middle Distance Crawl, Distance Crawl, Relay Racing, Back Crawl, Breast Stroke, Conditioning, Training, and Diving.

Each stroke and dive is presented in a clear, logical, orderly, and detailed sequence, with a keen eye toward the basic kinesiological and physical principles involved.

The excellent illustrative drawings are based on underwater movie studies of some of the world's greatest performers. Also presented are comparative records and work schedules.

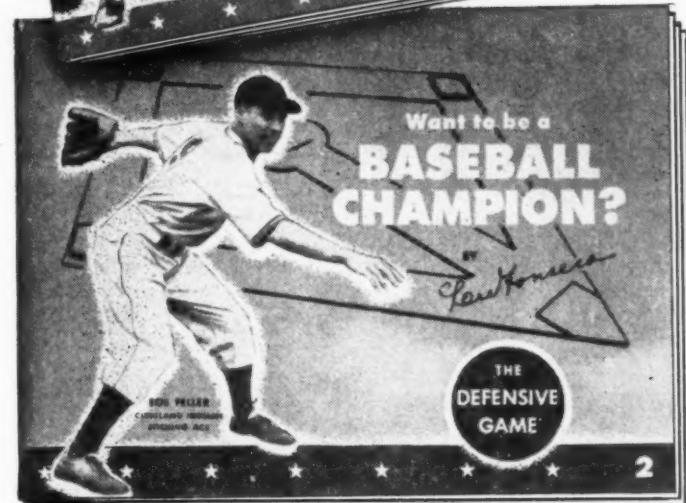
Well-written and solidly organized, this technical text should prove a boon to both the beginning and experienced coach.

- **BABE RUTH.** By Tom Meany. Pp. 180. Illustrated—photographs. New York: A. S. Barnes & Co. \$2.75.

HERE is a very superior sketch of baseball's great man, a light, whimsical tale that makes engrossing reading.

(Concluded on page 68)

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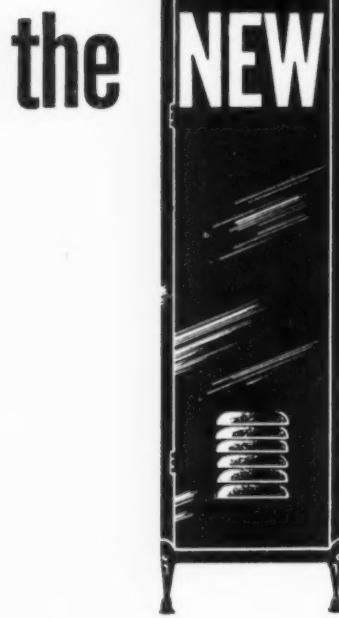
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LOOK in Locker Rooms

are needed for those who attend games, demonstrations or social gatherings.

Provisions for drying equipment is an essential in all secondary schools. Such a room assures the proper care of equipment and supplies used in athletics, with resultant economy and efficiency. A special room may be provided or special type lockers. Heating and ventilation may be installed in the team room.

The kitchenette-snack bar is a desirable room, and its provision is recommended. Such a unit has multiple use for school and community. It increases interest in using the school for community activities.

The needed size of a foyer in the physical education wing of the building is in proportion to the seating capacity of the gymnasium. It should be planned with consideration for the purposes for which it is intended such as traffic control, ticket distribution and collection, checking of wraps, and hygienic and comfort-convenience requirements of spectators.

SINCE appropriate dress and showers are necessary in vigorous physical activity, every school is obligated to provide sufficient shower, toweling and dressing space. Not less than one such suite for girls and one for boys must be provided in all schools which include gymnasiums.

Provision of clean towels following physical activity is strongly recommended for hygienic, sanitary and economic reasons. If towels are to be provided, a towel service and storage space is required. If uniforms, socks and other personal supplies are provided or laundered, an appropriately planned and located service and storage room is also required.

Gymnasium storage lockers are needed for all pupils who will use the dressing locker suite. But no storage locker provision is recommended for use by the community, as dressing lockers will suffice. Enough dressing lockers should be provided to meet the peak period load requirement either of the school or of the community.

Toilet rooms are needed for pupils and adults. One such facility is required in conjunction with each dressing locker suite, and one for men and one for women in conjunction with the foyer. The latter

In planning the number and size of each service facility in a given community, particular attention should be given to meeting full requirements of the school as planned, as well as making ample provision for possible expansion both of school and community population.

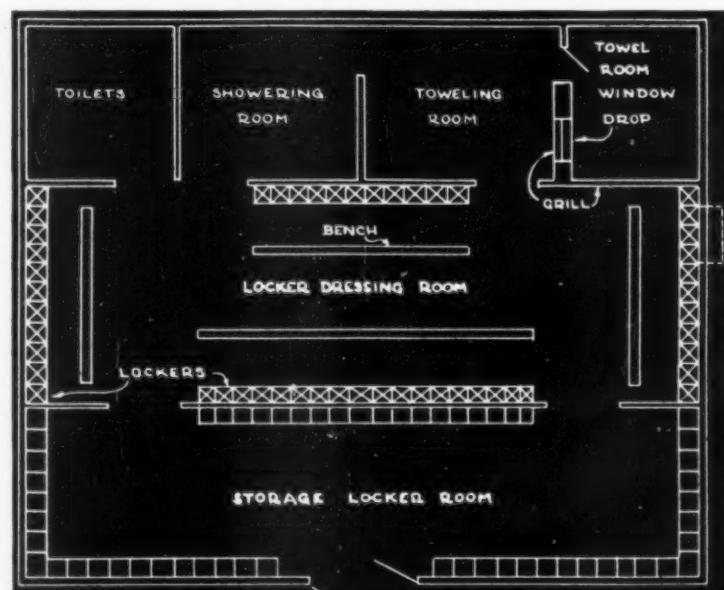
DRESSING LOCKER ROOM SUITE

Dressing locker room suites should be provided in every school. Such facilities are needed for participants in physical education, athletic and recreation programs, for hygienic care of themselves and their clothes for activity and for street wear.

This suite includes dressing space, lockers, showers, toweling room, toilets, and towel service and storage rooms.

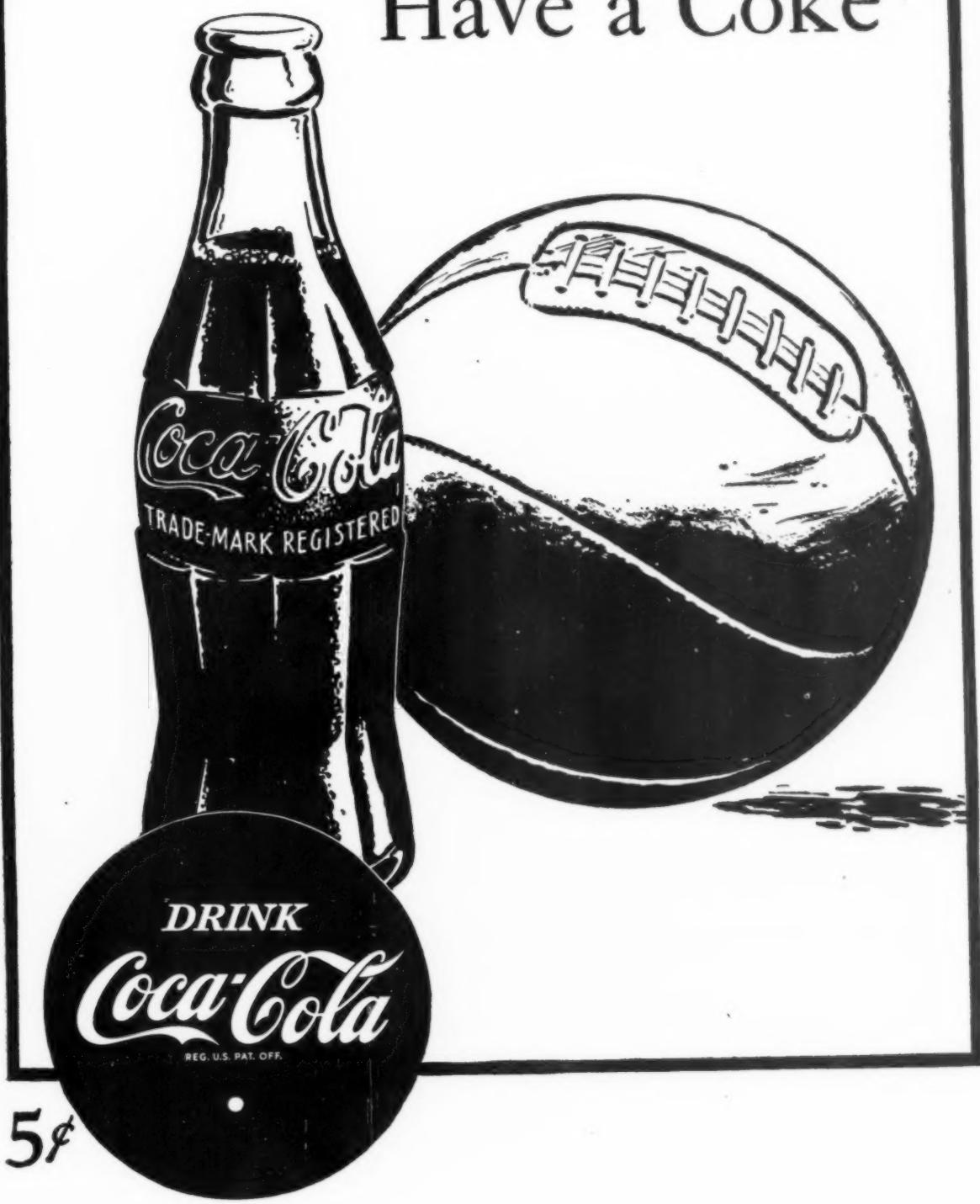
Three typical dressing locker suite arrangements are shown in the accompanying illustrations.

Type 1 has the advantage of providing storage of uniforms in a small space for economy in drying by forced warm air. The spacing



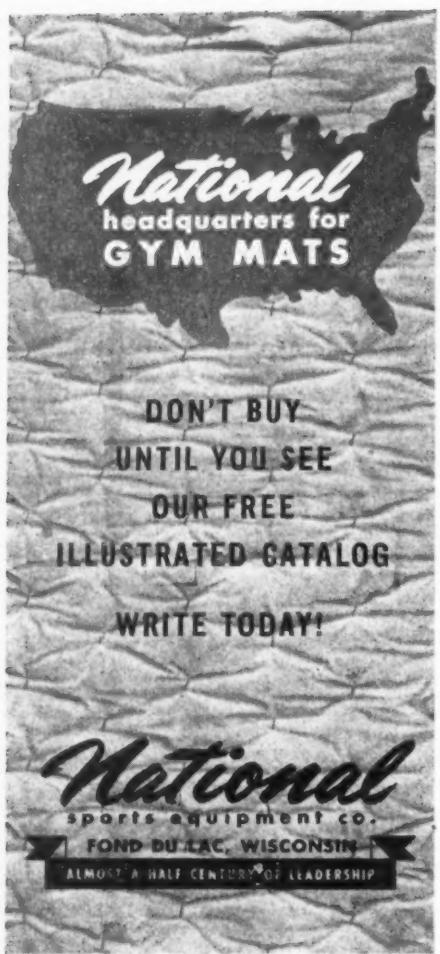
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of dressing lockers may produce some congestion. Saw-tooth ceiling lighting is suggested.

Type 2 distributes the dressing lockers and students over the entire area of the locker room, giving each participant ample dressing space. It also concentrates toilets, showering room, toweling room, and towel service into convenient proximity.

Type 3 units (on page 62) may be installed in any number desired. They distribute dressing lockers over the entire locker suite area and lend themselves to group dressing method for girls.

By constructing walls A, B, C, and D, putting a grill to the ceiling above the locker tiers and installing grill sliding doors at E, each unit becomes a complete dressing room for community use.

Walls A, B, C, and D may be omitted and gate F added to derive the same use and permit towel service and toilet units to be installed at points A and D. The unit permits the installation of plumbing down one side of the building.

PUPIL-COMMUNITY SUITE

Time available for showering, dressing and clothes storage is usually limited to 10-12 minutes. The prescribed number of shower heads is necessary to accommodate the peak period in that time.

In the group or gang type shower, the girls should be provided with a number of showers

heads equal to 40% of the designed peak period load. For the boys the number should be 30%. For instance, 40 girls—16 shower heads; 40 boys—12 shower heads.

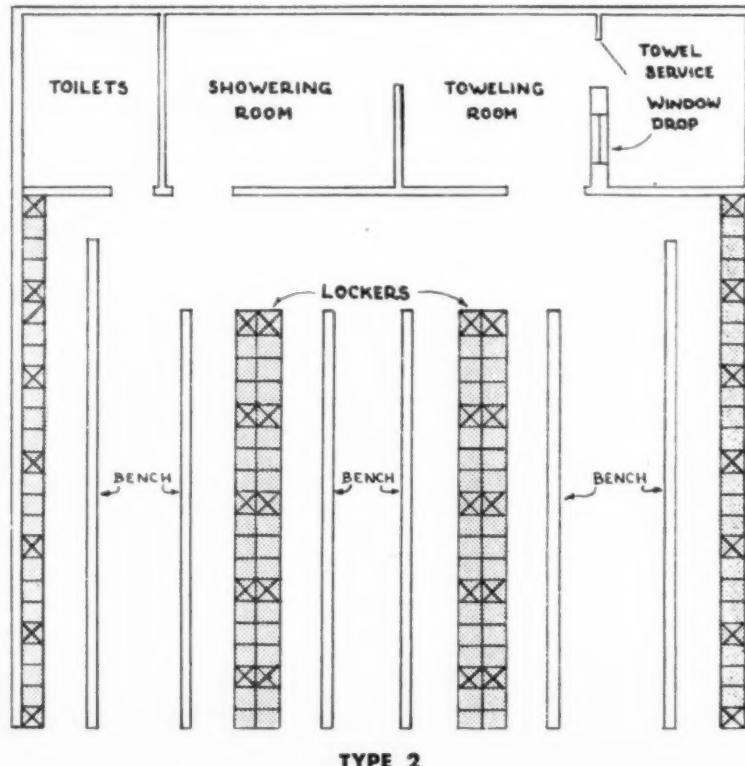
Shower heads should be installed at least 4' apart; should be non-clogging type; and height of spray should be adjustable by use of a lock. If stationary heads are installed, these should be so placed that the top of the spray will be shoulder height (usually 4'6"-5'0").

One to three individual shower booths should be additionally provided for girls. The size of the booth should be 3' x 3'6".

For boys, if walk-way or walk-around shower system is desired, the number of shower heads in the shower room can be reduced by one-third. In the walk-way, the shower head must be spray type utilizing metal spray outlets attached to the water pipe and be focused to provide coverage from shoulder height to feet.

These spray outlets must be situated so that a continuous spray will result throughout the length on the walk-way; and arranged to provide tepid, warm and cool water as one progresses through the walk-way.

The walk-way should be arranged in U shape with a total length of at least 35' and be from 3' to 4' in width. An entrance from the group shower soaping space and egress to the toweling room and



swimming pool should be provided.

Both individual and master control should be provided for all group or gang showers. The booth showers would have individual control. The walk-way should have only master control. Special feature requirements for shower rooms:

1. Non-slip floor material with coved base.

2. Floor to drain to a gutter not to exceed six inches along outside wall with ample drains. $\frac{3}{8}$ " fall to one foot from center crown.

3. Gutters to be covered with a non-corrosive durable grill or grate, flush with floor surface or recessed, and removable with key or wrench.

4. All plumbing should be recessed in the wall except valves and heads if a satisfactory servicing method can be devised; if not, exposed fittings and pipe should be tight to wall and well-secured.

5. Liquid soap dispensers installed on wall at shower control valve height at rate of one between each two showers.

6. Piping from tank should be non-corrosive and recessed if possible. A $1\frac{1}{2}$ inch hose bib to supply controlled temperature water for cleaning floors should be placed so as to eliminate hazard.

7. Lighting fixtures should be moisture proof with switch and outlet outside of the shower room.

8. There should be controlled ventilation for rapid removal of excess heat and moisture.

9. It is suggested that there be an entrance on the dressing room side and an exit by another opening to toweling room.

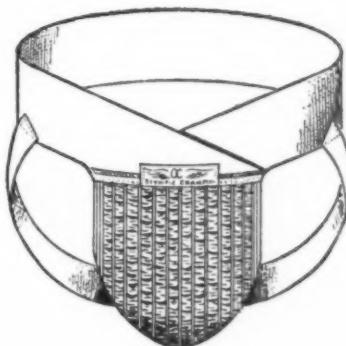
The toweling room should have the same total square foot floor area as the shower room and be immediately accessible to both showers and dressing room with entrance to each. If this is used in connection with the swimming pool, hair dryers should be provided for the girls. Special features of toweling room:

1. A ledge 18" high and 8" wide coved at wall and base, with bull nose edge, as foot drying aid is desirable.

2. If towel distribution is such that hanging of towels in drying room is necessary a towel bar is recommended. This 1" non-corrosive pipe should be 4' from the floor securely anchored 1" to $1\frac{1}{2}$ " from the wall.



OLYMPIC CHAMPION



OLYMPIC CHAMPION APEX NO. 1

Mesh type elastic pouch. Same patented* V-front is also embodied in the Apex No. 3 with soft flannel pouch to hold protective cup.

V-front ATHLETIC SUPPORTER

Players prefer the patented* V-front waistband designed on engineering principles to offset stress and strain of body twists and turns. Each side of the supporter acts independently, and body tension on either side focuses directly at the V-front — and is absorbed! Keeps the pouch snug, balanced and gently fit — won't loosen, droop down or slip around! No wonder athletes and sportsmen perform better with the Olympic Champion V-front!

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3. Walls should extend from the floor to the ceiling.

4. A non-shatterable transparent 2'6" panel for supervision of toweling, located 3'6" from floor to 6' in the wall between the toweling and dressing room may be desired.

5. Controlled ventilation for rapid removal of excess heat and moisture is recommended. (This may be provided in conjunction with shower room ventilating system.)

6. Drainage pitch should conform to standards set for shower room.

The dressing locker room should be large enough to provide adequate dressing space. The size, number and arrangement of lockers may vary. Therefore an average of fourteen square feet per pupil in the designed peak period load should be provided, exclusive of the space required for lockers.

The illustration on page 62 details a suggested locker and bench installation. The suggested height might not prove satisfactory for elementary or junior high school levels; lower units should be used at these levels.

It should be kept in mind that an installation that is restricted to about 54" in height will permit supervision over the entire locker room. Where this is done, the A-type top cannot be used, but the 4" ventilating space should be covered with louvered strip.

Storage lockers: In this locker the participant stores activity clothes, as shoes and gymnasium uniform. One locker should be provided for each pupil enrolled, with an additional ten percent more lockers than the total enrollment to allow for expansion.

SIZE OF LOCKERS

In the storage type lockers it is recommended that the size for both boys and girls be one of the following: 7½" x 12" x 24"; 6" x 12" x 36"; 7½" x 12" x 18". These sizes are listed in order of preference and were selected as being the minimum size with proper length, width and depth relationships which could be used to store ordinary gymnasium costumes and allow free hanging for ventilation.

If the multiple storage locker and single dressing locker unit installation is planned for elementary schools, either locker type 1 or 3 may be used. Type 2 would not be satisfactory because the over-all height would be too great.

Basket type lockers are not recommended for these reasons: They do not allow for the hygienic care of dressing equipment; they are not economical because they are constantly moved, and are then subject to hard wear, and because an attendant is essential for proper administration.

If an attendant does not distribute the baskets, there is apt to be locker destruction and pilferage. Student attendants are not recommended.

Dressing lockers: Lockers large enough to accommodate street clothes should be provided. The number should equal the designed peak load plus 10 percent to allow for variation in class size and scheduling. Dressing lockers 12" x 12" x 72" for secondary schools and 12" x 12" x 54" or 12" x 12" x 48" for elementary schools are recommended.

IMPORTANCE OF BASE

Lockers should be placed on a solid coved base six to eight inches high. Such a base is necessary to allow for cleaning or flushing the floor without damaging the lockers or their contents. Special features for the dressing room:

1. Stationary benches secured to the floor are essential. A seat board of hard wood, 8" in width, surfaced on four sides with rounded edges and corners is desired. The height of the bench for secondary schools is 16", for elementary 15" or lower may be desirable.

2. Space relations of lockers to bench, and bench to bench should be planned for traffic control and dressing comfort. Recommended allowances are 30" from lockers to bench, 8" for bench width and 30" passage between benches which are anchored to the floor.

3. A number of mirrors in both the boys' and girls' dressing room is essential. Location of mirrors within the dressing space will depend upon the location of lockers, windows and wall spaces. They should be permanently mounted. A counter or shelf beneath mirrors in the girls' suite and a full-length mirror near the exit are desirable.

4. Recessed lighting fixtures should be situated so that aisles and passages will be well illuminated.

5. Windows should be located with regard for the height and arrangement of lockers.

6. A built-in drinking fountain (Concluded on page 62)

Breezing along!



With low cost-per-use McArthur School Towels, your school will be breezing along toward real locker-room efficiency and economy. For McArthur Towels are woven to withstand all the rough treatment of daily use. A McArthur School Towel Plan, tailor-made for your school is available on request. Write Geo. McArthur & Sons, Inc., Baraboo, Wisconsin.

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NEW YORK**

Coaches' Corner

Please send all contributions to this column to Scholastic Coach, Coaches' Corner Dept., 220 East 42 St., New York 17, N. Y.

Probably the hardest loser baseball has ever known, Wes Ferrell now confines most of his sports activity to golf—which, as you'd expect, he plays with a marvelous lack of complacency. The prize Ferrell golf tale concerns a match he was playing with ex-Pirate Paul Waner.

After Waner had dubbed a drive, Ferrell, envisioning an easy chance to win the hole, addressed his ball confidently and swung. The ball barely dribbled off the tee. Ferrell went berserk. He sprawled out on the tee and started beating his head against an iron marker. In the midst of his pounding, however, his sporting blood rose to the surface.

"Paul," he muttered, between dull thuds of skull against iron, "if I kill myself, you'll find what I owe you in my hip pocket."

Speaking of stellar offensive skill, writes Coach Don Richardson of Clare (Mich.) High, "can you mention a better performance than the one our halfback, Bill Campbell, turned in against Gladwin High. Bill toted the leather 18 times for 186 yards, setting up three t.d.'s. He scored one himself on an 80-yard kick-off return and threw passes of 41 and 20 yards for two of the other three scores."

Bobby Bragan, the Dodgers third-string catcher, begged the club secretary for an extra pair of tickets to the world series with the Yankees. "Whom do you want them for?" the secretary demanded.

"Me and Rex Barney," came the straight-faced answer. "We can't see so good from the bullpen."

Bill Graf, football coach at The Manlius (N. Y.) School, puts in a plug for his boy, Beano, a "rat" at V.M.I. Beano played jayvee ball for nearly all of the 1947 season. But 48 hours before V.M.I.'s big game against V.P.I., he was moved up to the varsity. Although he wasn't even listed in the program, Beano booted four out of four extra points to help V.M.I. to a nice 28-14 win.

A small-time horse owner, desperate for money, decided to hop up his horse. He gave it the needle in one hip, then in the other. To make sure he tossed a pill in the horse's mouth. The nag chewed the pill, obviously liked it, and opened his mouth for

more. So the owner poured a box full down his throat.

As the field was going to post, a friend of the owner's asked: "Think your horse will win?"

"I don't know," rejoined the doper, "but win or lose, I guarantee he'll be the happiest horse on the track."

Okie O'Connor, the indefatigable Boswell of six-man football, forwards a couple of records for public approval. According to his score-card, the record for straight six-man wins is 30, held by Tolono (Ill.) High. Runner-up is College Springs (Iowa) High with 26 in a row. O'Connor also wants to know if there is a school that can match Tolono's over-all record—43 wins, 2 losses, and 1 tie in six years.

"Wouldn't you say our Joe Osborne was the biggest football player in the U.S. last season?" says Metz Cherry, coach at Kennett (Mo.) High. "Joe is 17 years old, 6-2, and weighs 360 pounds. He was regular guard on our team. Enclosed is a picture of Joe alongside our quarterback, Don Hall, who is 5-8 and weighs 145."



Bongo, bongo, bongo! Meet the biggest football player in civilization—Joe Osborne, 360-pound guard of Kennett (Mo.) H.S. Quarterback Don Hall, on right, gives you an idea of how Joe stacks up against an ordinary player. C'mon, fellers, smile.

Exactly 24 hours after sending our December editorial, "Anent the Free-Sub Rule," to the printers, we received a note from Coach Eli Floasin of Copley Township (Ohio) High corroborating everything we had written. Coach Floasin puts the advantages of the free-sub rule as follows:

"1. It eliminates the old trick sideline coaching. Remember when a coach would start warming up a boy on the sideline for the sole purpose of communicating a play through his

jersey numeral? And remember those crazy signalling devices such as hat dropping, turf kicking, etc.? All of this represented illegal coaching, and put the coaches who played fair at a disadvantage.

"2. More boys are now given a chance to play. Special abilities can be developed and used freely. Good pass catchers, spot runners, and good defensive men may now be moved in and out of the game. Many of these boys would not get to play much but for the free-sub rule.

"3. Players may now be kept fresher and the danger of injuries is reduced. With free substitution, a tired boy may be taken out and given a rest, then put back in—alert and fully capable of protecting himself.

"4. Free substitution makes for a more appealing brand of play, thanks to specialized plays and close coaching. The individual player can play at top speed all the time he is in the game. He does not have to save himself for the long pull."

Right on top of Coach Floasin's communiqué came this missive from Coach C. H. Street, of Castlemont High, Oakland, Cal. "Should I be benched or sent to the cleaners for suggesting a more lenient substitution rule for baseball?

"If the baseball code permitted substitutions after each play as in football, maybe I could win more games. I have it all figured out. On defense I would use my crack fielders. Then at bat I could send in some of my lumbering sluggers, who are not much good for anything else.

"As soon as a batter reached first, I could substitute one of the school's sprinters. He would speed to second on a flashy steal, eliminating the need to sacrifice. The next sub, say, gets a stingy single, sending the sprinter to third. I now put in another rabbit on first, and send in my one and only perfect slider to run for the man on third. The next batter gives way to a dead-eye bunter.

"Now I pull a real fast one. I have the rabbit on first steal second, then signal for a fake squeeze play. The batter pulls a perfect fake, keeping the catcher behind the plate, and my wonderful slider crosses the dish in a cloud of dirt.

"After picking up a batch of runs, we go on defense again—with my defensive team taking the field, of course. Not liking the looks of the opponents' heavy slugger, I let my pitcher run up a 1 and 1 count, then put in a little runt who has a nasty habit of putting the ball low on the outside corner. He does that and the count runs to 1 and 2. Now I substitute a fast-ball artist, who delivers that bullet of his and the mighty slugger goes down swinging.

"How about it, men. Couldn't we have some fun with a free-sub rule?"

Are the 55 points racked up by Chuck Debok of Russell (Iowa) High

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COACH

against Lucas High, tops for schoolboy ball this season? Any of you have a boy who went over the mark? And is the 39-0 defeat that Faison (N.C.) High hung on Kenansville High the only basketball shutout recorded this year?

Ward Cuff, the great running and blocking back of the Giants-Cardinals-Packers (1936-47), will be a high school football coach next season. He recently signed on with Green Bay (Wis.) Central Catholic High School. Glad to have you with us, Ward.

Hey, duffers, here's good news. The U. S. Rubber Co. has just put out a nice tough 50¢ golf ball. Called the U. S. Nobby, it's sure to help lick the high cost of golfing. It's a perfect ball for practice play and for beginners.

Talk about wild football finishes! Did you ever see anything wilder than the wind-up of the Ohio St.-Northwestern game? Ahead by six points with a minute and 47 seconds remaining, Northwestern took over the ball on its one-yard line.

The Cats put on a freeze. They ran one play and were moved back to the 1-yard line for taking too much time. Ohio was offside on the next play, and the ball moved back to the 6. Then the Cats were offside and went back to the 1. They were offside again, but Ohio declined the penalty. Finally the Cats had to kick—with 30 seconds remaining.

Bob Demmel took the punt in mid-field and raced back to the 35. Savic hit Demmel with a pass good for 24 yards, reaching the 11. There were 13 seconds left. Savic passed—and Day intercepted for Northwestern. But the Wildcats had 12 men on the field and Ohio was allowed another play. The Cats piled up a line play as time ran out, and the bands paraded on the field.

But the officials ruled the Cats had been offside, and Ohio had one more chance. Savic used it to pass for a touchdown, tying the score, 6-6. Moldea came in to kick, but his attempt was blocked. And again the officials had to clear the field because they had caught Northwestern offside. This time Moldea made good on his try, giving the Bucks a 7-6 win.

Bring on Notre Dame. That's what Santa Monica (Calif.) High was gurgling at the close of the football season. The Vikings polished off all 12 of their opponents in 1947, rolling up 426 points to their foes' 71.

Dick Horn, their signal caller, surely set an all-time record by completing 106 of 181 passes for 2,117 yards. He also chucked 25 touchdown passes—four more than the college record.

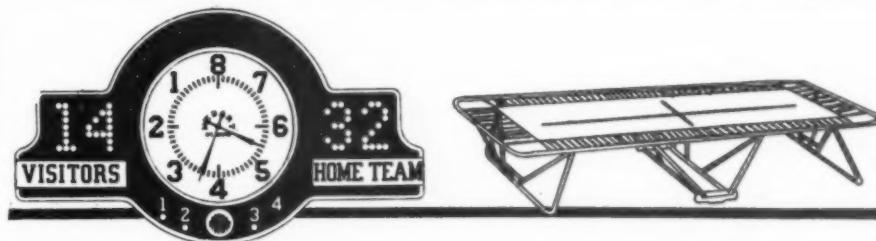
The noblest Viking fan of them all, Peter Gruber, tells us that a lot of people out his way think the 1947 team was the greatest in Southern California history.

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AMERICAN HAIR & FELT COMPANY

MERCHANDISE MART, CHICAGO 54

Your Stadium

(Continued from page 8)

storm sewer networks must carry off the collected water, sudden down pours of cloud-burst dimensions offer a major drainage problem. The drainage system should be planned with peak load and safety requirements in mind.

The grandstand: The general purpose of a grandstand is to provide the spectators with a good view of a performance under comfortable circumstances. The view is affected by both the distance to the action and obstructions in the line of sight. The shape and the relation of the grandstand to the action is generally determined by the type of performance.

Sight lines: The best view is obtained when the sight line to any part of the field of action clears the heads of spectators in front. Since this is not always practicable, only sight lines normal to the grandstand are ordinarily considered; oblique lines to different parts of the field are neglected. Sometimes compensation is made by curving the stands so normal lines approach the center of action.

Seating: In the design of seating, several general considerations are important: the kind of contest or exhibition; the comfort and convenience of entering spectators; probable behavior of spectators; and proper balancing of cost against the degree of comfort desired or advisable.

Most stadium seats are wood and are supported on iron brackets. Most commonly used woods are douglas fir, redwood and cypress. The choice should be based on resistance to deterioration. Preservatives are desirable, as is painting, provided care is taken to prevent staining of spectators' clothing. Seats should be numbered for permanent use.

Seats, usually made up of two or three pieces, preferably pitched to the back for comfort and drainage, have less tendency to warp.

Preferable minimum depth of seat is ten inches, nominal thickness, usually two inches, with bracket supports usually four feet on centers. Ordinarily seats should not be continuous over expansion joints in the stand structure.

Space allowed for each seat, lengthwise in a row, is generally between 16 and 18½". Height of seat from the floor should be approximately 16-18". The risers in the aisles should be less than 7" in height and the treads should be

at least 12" wide. Seats for football stadia are usually without back rests since they are seldom used because of the nature of the game.

Section markers: To aid the public in self-direction and to expedite identification, markers for sections, rows and seats should be prominently installed.

Toilet and rest room facilities, dressing and hospital accommodations, storage space: All stadium events which attract large crowds cause a maximum rush on rest room facilities. Provisions to meet this rush should be distributed evenly throughout the structure and readily accessible from any location.

Rest rooms should be designed with great care for light, ventilation and sanitary care.

Fountains, faucets and containers should be so located that the groups gathering about them do not impede the orderly circulation of the crowd. Drinking fountains should not be located in the toilet rooms.

If large relay carnivals or track meets or elaborate folk festivals involving several hundred participants are contemplated, the dressing and shower accommodations usually provided for football teams may not suffice.

Each athletic team room should include a training room or walled off portion designed and equipped specifically for such purposes.

A shower room designed in accord with the accepted standards is an essential for each dressing quarter.

Toilets to accommodate the peak load and located conveniently to, but apart from, the shower room should be provided.

Adjacent to each team dressing room might well be another room for rest and instruction equipped with blackboard, table, mats and other essentials.

A separate dressing room, complete with locker, shower and toilet accommodations, should be provided for officials. Light, ventilation and general comfort should be given full consideration.

An equipment-drying room large enough to service the equipment of two large football squads should usually be provided.

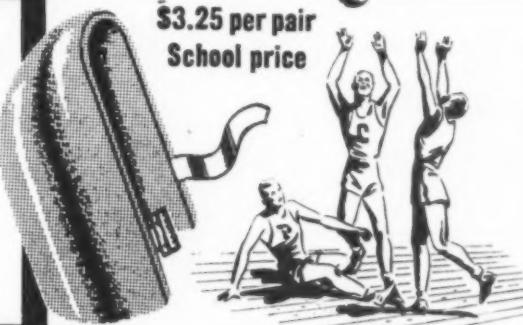
Adjoining each set of dressing rooms, a hospital room accessible to ambulances and with a ready avenue of exit through the major entrance walls is desirable. The stadium itself should provide stretchers, cots, hot water and other equipment necessary for emergency service.

Under the structure and close to the central point of use, there should

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canvas cap — sponge rubber — strap and buckle for fastening
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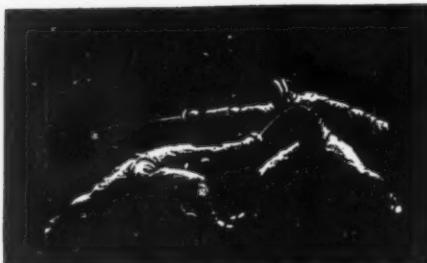
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be provided equipment storage rooms for the accommodation of such things as track and field equipment and supplies, football paraphernalia, removable box seats and temporary bleachers, with a separate room for tools and other maintenance equipment.

Depending upon the location, the size, the amount and variety of use of the stadium, additional shops for carpenters, painters and electricians may be advisable. These should be contemplated in the original plan.

Distributed evenly along the main corridors of traffic in the stadium and rendered easily discoverable by directional signs should be a number of public telephones or clusters of telephone booths.

Press and radio box accommodations for reporters, scouts and observers are frequently designed as a part of the general design of stadia, with roofs forming a platform for cameramen. Separate accommodations frequently are made to provide for radio television and loud speaker services.

Enclosures provided with telephone connections to the players' benches may be provided for each respective team. These may be placed at the midfield and also at the ends. Press boxes, broadcasting and television booths should have a special avenue of approach in the larger stadia through which credentials can be carefully checked and handled.

For football, these facilities should be centered on the 50 yard line; for baseball, location near home plate is desirable.

An elevation, such that reporters' view cannot be obstructed by a standing crowd, is required.

MINIMUM FACILITIES

Minimum facilities consist of a continuous desk approximately 18" wide with an allowance of about two linear feet per man for reporters and double the space if wire reports are being made.

Outside telephones, adequate artificial light, telephone connections, score board and players' bench, electrical outlets, snack bar and some form of heating are desirable. Toilet facilities should be provided easily accessible to the press box.

Soundproof broadcasting and television booths are usually an essential part of this accessory structure.

Public address systems may be controlled from the press box or broadcasting booth.

These quarters should be glazed

on the field side with quarter inch plate glass with a minimum of dividing obstructions.

Ticket offices: The number, distribution and types of ticket offices are influenced by so many variables that specific patterns and designs are avoided here. The ticket booths which are part of the stadium structure obviously should be prominently and conveniently located and distributed near various major entrances if the outer stadium wall is not rendered inaccessible by a surrounding fence.

TICKET SERVICES

Under any circumstances, the ticket services actually housed within the stadium walls should be supplemented by mobile or fixed ticket booths easily accessible and widely distributed around the outside of the outer stadium enclosure.

Concessions have come to be considered a necessary public service in relation to public gatherings. Appropriate space, distribution and adequate fixtures of concession stations or stands within the stadium structure should be provided.

An illuminated **scoreboard** and time clock (two if necessary), easily visible to all spectators, should be provided. It is advisable to have the scoreboard, especially in the larger stadia, designed as an integral part of the structure.

Offices, lounges and other optional facilities: If the space is afforded and other factors suggest its desirability, a lounge room, or even two of them, might well be provided within the walls of the structure for the members of athletic squads, lettermen and other visitors.

Stadia, which are used for team practice sessions as well as for the regularly scheduled contests or which are intended to provide the auxiliary services for adjacent practice fields, should provide equipment rooms and cages for issuing and caring for supplies. These rooms should be convenient and integral parts of the dressing room suites.

Large stadium structures should provide ample extra water-proof space under the stands for handball and squash rackets courts, archery and rifle ranges, boxing, wrestling and fencing rooms, golf cages, and the like. These units should be waterproofed against leakage from the structure above.

This helpful treatise on stadium planning is reprinted from *A Guide for Planning Facilities for Athletics, Recreation, Physical and Health Education*, a review of which may be found on page 46.

LOCKER TALK



... And it's all about these popular Hyde track shoes! They're made in two sturdy leathers . . . kangaroo and calf . . . with a soft, snug-fitting heel. And their airy lightness afoot means the difference between first place and second in many a meet.

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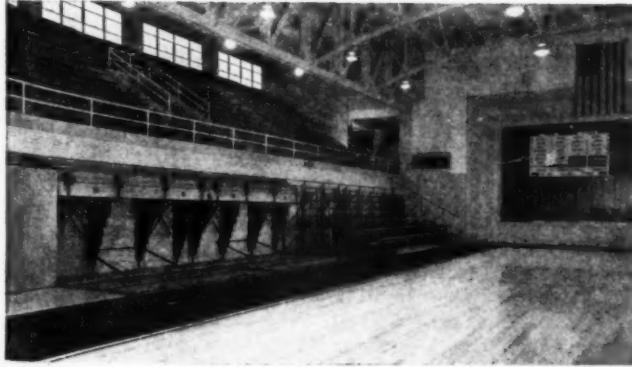
For your varsity nine and intramural program, these are the Hyde baseball shoes that coaches everywhere are recommending. They're rugged kangaroo, reinforced with leather linings, and containing these popular Hyde features:

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instructions to his boys. Finally the referee called a technical foul on him for coaching from the bench. After the game, Rupp was asked for his opinion of the ref's action.

"Hell," he said, "my coaching is worth a technical foul any time!"

Rupp's method of picking his players is a mystery to everyone but himself. He simply points to the top of his office door—6 feet 2 inches high—and says, "If they don't bump their heads when they come in, I don't even bother shaking hands."

HE WAS A STRANGER

The 1935 Kentucky team, with big LeRoy Edwards starring, was one of the nation's best. Undefeated it traveled to New York and lost to NYU, 22-23, in the last seconds via a foul called on Edwards for screening.

Rupp complained bitterly about the officiating. On his return to Lexington, Rupp was asked to explain what happened. "Riding back yesterday," he said, "I turned on the radio. A broadcast came on from one of the churches in New York. The minister used as his text, 'He was a Stranger, and They Took Him In.' That's all I know about what happened."

Rupp's biblical quotes have become classics. Once, when drilling a frosh team in fighting for the ball under the basket, he exhorted them: "Beat the other fellow to the charge. Hit hard. Remember, the bible says, 'It is better to give than to receive.'"

"But coach," countered one of his players. "I always thought the bible said, 'Love thine enemies.'"

"That's the old version of it," Rupp snapped back. "The rules committee changed it!"

Before taking our departure, we asked the Kentucky coach for his method of handling a team during the half-time intermission.

"No pep talks," grunted Rupp. "That sort of stuff is passe. The modern boy is too sophisticated to fall for any phony histrionics."

"What we do is go over our offense, covering the strengths and weaknesses as revealed in the first half. Then we adjust our offense to the opponents' defense."

"Our next job is to fix up our defense. We go over it just as we did with our offense. We itemize the strengths and weaknesses, then adjust our defense to the opponents' offense. That usually takes good care of the 15 minutes allotted to us."

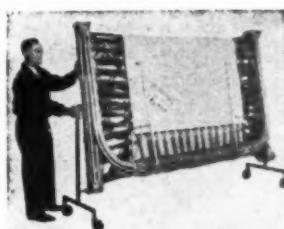
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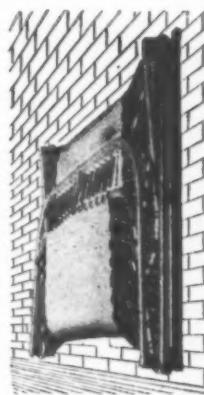
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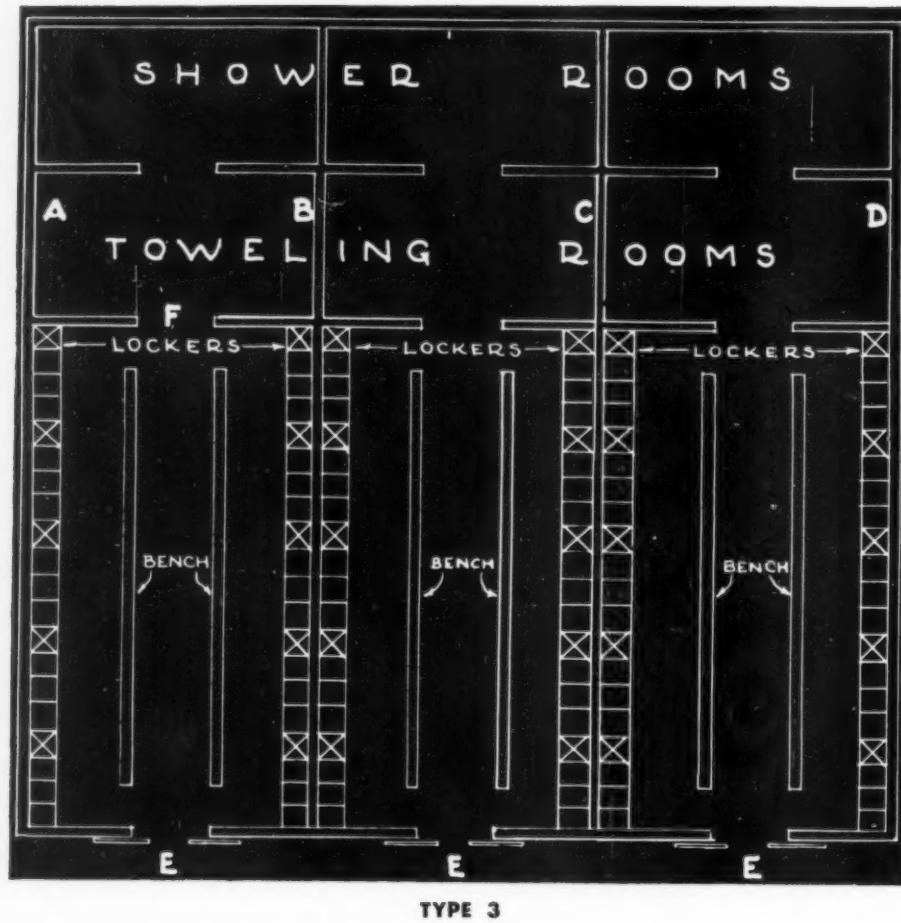
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The New Look in Locker Rooms

(Continued from page 53)

and cuspidor should be in the boys' dressing-room.

7. A tackboard should be provided for each dressing locker suite. This may be located within the locker dressing room, or in the corridor adjacent to the suite entrance.

Towel service and storage room: The size of floor space required will depend upon the amount of storage to be maintained and the frequency of distribution of towels or uniforms. Adjustable shelves in sufficient number to accommodate the load are required.

A check-out window should open into or be immediately adjacent to the toweling room. If uniforms are distributed from this room, a dutch door or check-out window should also open into the dressing room. The opening should have a counter, and be so located that waiting will not interfere with traffic from the toweling room or in the dressing space.

In the event that the suggested location of the towel supply and storage room interferes with normal dressing room traffic (particularly units with a high designed peak period load), consideration

should be given to locating this room immediately accessible to the corridor entrance of the dressing room. In this case, it could be either within the dressing locker suite or immediately adjacent to it.

Faculty-Community Locker Dressing Suite: This suite is essential if out-of-school groups are to use the indoor and outdoor school facilities during the school day. It is also desired for use by the general school faculty, particularly for those who are assisting with the intramural and high school games.

The size of this suite will depend on the faculty and community interest. It is not possible to determine this peak load. Hence the standards for this unit will be those used in the senior high school suite. The storage lockers should be omitted except for the faculty.

Dressing lockers should be provided in sufficient number to accommodate the peak load using the room at one time. This suite should be accessible to an outdoor entrance and located so that it can be shut off from the classroom section of the building.

Team-Community Room: In the senior high school, a room should be provided for the interscholastic athletic squads. It should provide the floor space recommended for the dressing room (i.e. 14 square feet per person in designed peak period load) plus sufficient lockers (peak load plus 10%) of 12" x 15" x 72" size. Special features for this room:

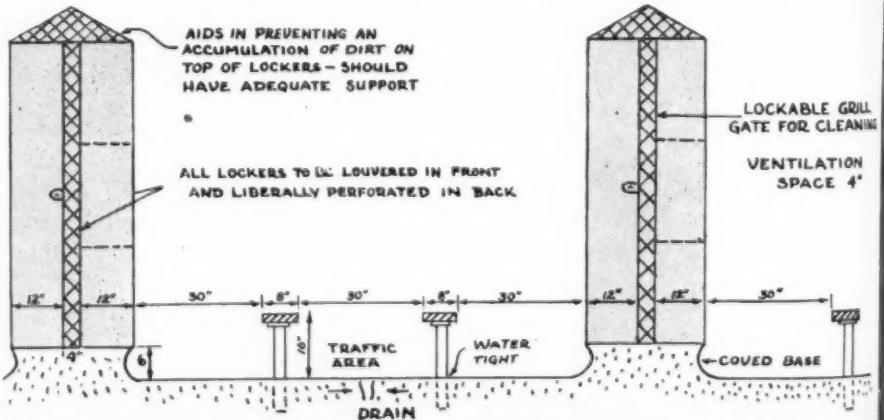
1. Same as noted for pupil-community suite with added attention directed toward the need for controlled ventilation.

2. If an equipment drying room is not provided, special provision for direct locker ventilation should be made.

Equipment Drying Room: Special drying facilities for senior high schools are essential. The size and capacity of the equipment drying room will be determined by the size of athletic squads. If a drying room is not provided, special ventilation for team lockers must be considered.

If an equipment drying room is needed in the elementary or junior high school, the same standards may be used as those for the senior high school. The room, among other things, requires special heating and ventilation, and proper arrangements for hanging uniforms.

Reprinted from *A Guide for Planning Facilities for Athletics, Recreation, Physical and Health Education*. See page 46 for review of this book.



A suggested locker and bench installation.

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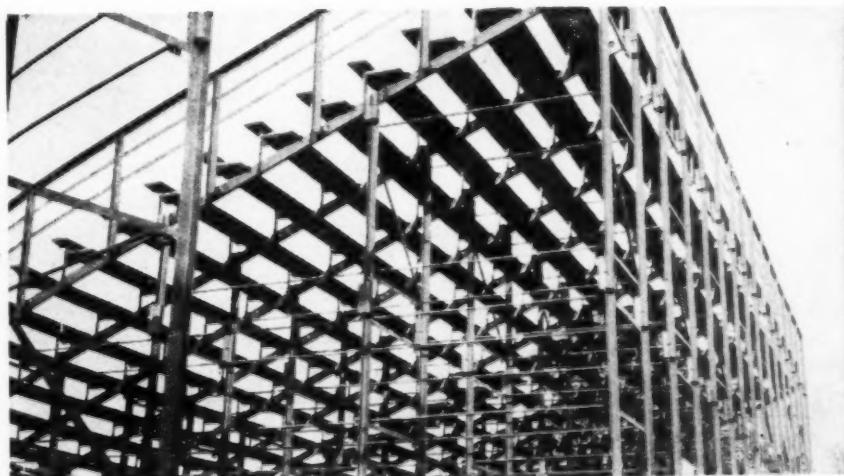
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Modern Design in the School Plant

(Continued from page 10)

The lie of the land dictated a recreational development on three levels, with the school building on a still higher level.

Fortunately for the football stadium, nature provided a long dish on a north and south axis, with easily sloping sides for the grandstands.

On the level below the football field are separate baseball and softball diamonds and a large group of game courts.

At the lowest level is the brook, with an open meadow on one side and wooded slopes on the other side running across the entire width of the property.

The school building will stand on high ground and face west, with a very attractive outlook across fine woods and open fields.

Relation and content of the units. In fixing the location of the units, the problems were:

1. To place the areas and facilities that would be used most frequently by the students, as close to the building as possible;

2. To make the community-use features of the building accessible by separate outside entrances as well as from within the building;

3. To segregate the noisiest features as far as possible;

4. To bring together the facilities of an informal nature;

5. To place the facilities for small children as near their homes as possible;

6. To situate the competitive games for small groups requiring little supervision in a transition position between the highly organized sports and the informal park and picnic area.

The accompanying plan shows how these problems were solved.

The gymnasium is placed on the ground level and is connected with the main school structure only by a passage-way.

In some localities, such as Dover, Del., the gym is a completely isolated structure. As a rule, however, this complete separation is undesirable. It exposes the students to bad weather in going from classroom to gym or else forces them to don protective clothing—a time-consuming inconvenience.

The Mineral Springs gym, with its dressing facilities, lockers and showers, is not only tied in with the building proper, but is also close to the concentrations of players in the major sports and multiple-use areas.

The gym is accessible to the players by several paths and to the general public by way of the long walk leading to the avenue on which the school faces.

The auditorium, while not a separate unit, has an outside entrance and a separate service entrance.

Small group game courts. Close to the school building is a hard-surfaced multiple-use game area which includes a basketball court, two shuffleboard courts, two paddle tennis courts, a badminton court, a volleyball court, and a handball court.

They are for year-round use by students and community, and will supplement the gym during much of the school year. The entire area may be easily cleared for roller skating, square dances, social dancing, and other large group activities.

Since the region has a comparatively mild climate, much outdoor activity is feasible. The hard-surfaced area solves the mud problem. Such areas can, even in tougher climates, help increase the amount of outdoor activity—a trend in keeping with the best thought in the field.

Another advantage of such areas is that they reduce maintenance costs.

GAME COURTS

The game court unit also includes a section for two tennis courts, a giant checkerboard, four horseshoe pits, and six outdoor bowling alleys.

The game courts lie between the school and the football field and between the picnic and park section, and are connected to both by paths. In the summer they will be related mostly to the park and picnic area, but will be administered from the gymnasium.

Major sports fields. These are the football, baseball and softball fields. The orientation permits maximum comfort for the players. The showers and lockers in the gym are only 200 feet distant from the baseball and football fields.

The football grandstand is only a step from the major parking area while the softball and baseball diamonds are located convenient to the park.

Bleachers are shown for both softball and baseball fields.

Girls' activities facilities. Though not indicated on the plan, girls'

field hockey and other games may be played in the outfields of the two diamonds and in the adjoining meadow. With the exception of the football and baseball fields, all the facilities and areas, including softball, are designed for both sexes.

Park and picnic area. At the south end of the Mineral Springs property is a natural park. For the designer to treat it as anything else would be a blunder of the worst kind.

Here the development attempts merely to secure access to the various parts of the wooded area by paths and trails; to show picnic fireplaces, tables and benches; to bridge the brook.

Settings. All units of the area, including the building, the game court section, the sports fields, and the picnic grounds are furnished amply with lawn, shrubbery and trees. The existing natural growth of trees and shrubs has been retained where possible. This also applies to the brook, whose winding course has not been altered.

Conclusion. The planning problems faced by no two schools are alike. Topography, size, shape, curricular requirements, locations, differ. However, the principles involved are identical.

The plan should be directed at the needs of the larger community as well as those of the school.

The desires of the adults, post-school youth and children of the locality, as well as the opinions of the board of education and the administrators and faculty of the school, should be considered.

Building and area designers should work as a team. Just as school and hospital design have become specialties in the general field of architecture, so recreation design is now a specialty based upon intimate long-time familiarity with the function.

Functions rather than decorative effects should dictate the design throughout.

It is believed that the Mineral Springs High School area illustrates the application of these principles. It is a cooperative approach to planning.

The development of this field and building is being aggressively pushed under the vigorous leadership of Ralph Brimley, county superintendent of schools, and Frank T. Stith, chairman of the county school commissioners.

Weaver W. Pangburn, recreation consultant par excellence, is a member of the famous F. Ellwood Allen Organization (Park and Recreation Planners), which has designed many of the country's outstanding recreational plants, including the project outlined in this article.

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all circumstances, his unlimited capacity for work, the high quality of his character, with a faculty for commanding respect from his fellow associates, made him a beacon in the Utah High School Activities Association.

"May the joy of work well done ever accompany him in his numerous activities of daily life as a wise father, an industrious Superintendent, and a substantial citizen."

Baseball advisory board. In accordance with the baseball program outlined by the Joint Baseball Committee, an advisory group was called together to discuss the play situations to be included in the new Baseball Play Situations Book. This group included David Arnold (Mich.), Kurt Daib and Lyle Quinn (Iowa), M. F. Sprunger, Otto Kuehn and W. Burdell Smith (Ill.), A. A. Schabinger, Jocko Conlon of the National League, and Emmett Ormsby of the American League.

At this meeting, many phases of the baseball rules were discussed and attempts made to draw up rulings in accordance with established procedures and which, as nearly as possible, are in accordance with the practices in the major leagues.

Sportsmanship program. Many sections have organized programs designed to promote good sportsmanship among student bodies and other sports spectators. A few typical examples are the programs sponsored by A. N. Smith in Elyria, Ohio, and by Pete Roberts in Springfield, Ohio.

In both cases, well-planned meetings are held at the beginning of the basketball season to acquaint spectators with rules problems and to familiarize them with the measures taken each season to assure uniform interpretations and equitable administration of the rules.

Full details concerning this spectator education program are to be found in an article by A. N. Smith in the November issue of *Scholastic Coach*.

Track and field activity. Only one national track record was set in 1947. That was in the 120-yard high hurdles. In the Texas state final meet, Lee Miller of San Antonio ran the event in 14.0 sec., tying the national high school record originally set by Joe Batiste of Tucson, Ariz.

The 1948 edition of the Rules and Handbook is now on the press. It should be ready for distribution early in January. The new edition contains up-to-date data concerning the state final meet results of last spring, a revised article on "Starting," and other interesting material. The table showing the various state records in the different events has been brought up to date. Forty-seven new state records were established last spring.

Six-man football. A pamphlet concerning the present status of six-man football has been prepared by Ray Duncan for distribution by the National Association of Sporting Goods Dealers.

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2. Rubber Face (Detachable)
3. Five Adjustments
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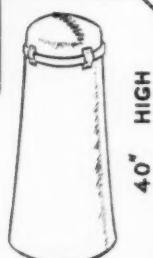
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BRADLEY M. LAYBURN CO.
461-8th Avenue, New York, N. Y.

The Six-Man Football Magazine, published by C. J. O'Connor in Baltimore, Md., made its appearance during the fall and the next issue is due in March.

A survey of the number of schools participating in each of the states is being made by Stephen Epler (Ore.); while H. R. Dieterich (Mo.) is making a study of various phases of the game.

New state association bulletins.

Among the attractive printed bulletins which have been issued for the first time this year are those of New Jersey, Florida, and Alabama. In addition, states such as Idaho have improved and expanded their contributions to the magazines or journals in which the state association has been assigned a section. The bulletins of Indiana, New York, Kentucky, and Tennessee have been making increased use of illustrations to improve the appearance of the publication and to draw attention to certain sections.

Visual aids. Work on the 1948 football and basketball motion pictures is under way. The new football picture was filmed at Phoenix, Ariz., during the early part of December. The basketball picture will be filmed after the meeting of the National Rules Committee in March.

The two current films *Football by the Code* and *Basketball by the Code* are being widely used. In nearly every state, the demand greatly exceeds the supply, and most available films are already booked for the entire season. The postcard reports indicate that these films are popular and that they are considered a valuable part of the instructional program as well as wholesome entertainment for assembly programs. A total of more than 500 prints of the four films is now in use.

—H. V. PORTER

New Books

(Continued from page 46)

Not intended as a biography, it offers a host of wonderful vignettes of baseball's most fabulous figure—of the Babe's adolescent days at a Baltimore orphanage; his early career as a Red Sox pitcher; and of the era of glory, big money, and laughs with the Yankees.

Meany, one of the top sportswriters in the land, tells Babe's story just as he lived it—with gusto, flamboyance and high humor. It is a tasty concoction of pathos and comedy—a must for the kids and a treat for the grown-ups.

The sale of this book has been phenomenal. Several "runs" have already been exhausted and the demand is still unusually heavy. This must be a source of deep satisfaction to the Babe, now recuperating from a very serious operation.



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SCHOLASTIC COACH
220 E. 42 St., New York 17, N. Y.

SPRING DELIVERY
U T K SAFETY PORTABLE BLEACHERS
THE UTICA STEAM ENGINE & BOILER WORKS
Utica, New York
Established 1831

"Miracle Dirt"

(Continued from page 26)

was under way at St. Mary's School, Pontiac, Ill.

Nearly every school that has undertaken an all-weather project with natural rock asphalt, has come up with valuable suggestions for others—in the use of simple machinery, methods of shortening the work, and new ideas for lowering still more the cost to schools.

The cost of a surfacing project can be approximately determined by securing the material cost and the freight charges per ton from the nearest mine. When laid inside forms 1 1/4 in. thick, one ton will cover 175 sq. ft.

A school administrator can locate the nearest mine by writing to his State Superintendent of Highways or to his State Geological Survey. Deposits of natural rock asphalt have been found in Missouri, Kentucky, Ohio, Louisiana, Oklahoma, and California.

BASIC PROCEDURES

Schools planning an all-weather surfacing project will assure good results by observing the following procedures:

1. Prepare the base (as you would for a private driveway) a year in advance.
2. Order ample material from the nearest mine. Order plenty so that you won't run short. You can always sell surpluses to nearby home-owners, who always need some for their driveways.
3. Set the freight carload in a materials dealers' yard which has a "clam-shell" power shovel for unloading. (Power shovel unloading costs about \$1 per ton; hand shoveling, \$2.25.)
4. Stock-pile the material near the playground.
5. Spray the base with 4 gals per sq. yd of liquid asphalt. A road maintenance distributor will do this job, or you can use sprinkling cans.
6. Distribute the natural rock asphalt in windrows, with a Fordson tractor dirt loader. (Or you may use wheelbarrows.)
7. Straddle the windrows, with the wheels of the tractor set wide apart and with the grading blade in the rear of the tractor. Don't run the wheels over bladed material. Level off the windrows down to about 2 in. in thickness.
8. Saw four forms, 1 1/4 in. thick and 4 in. wide, from four 16-ft. two-by-fours.
9. Lay these forms end to end,

New Fair Play Football Clock



FAIR PLAY announces a new sensational direct reading figurgram clock for 1948!

- Large 20 inch red numerals.
- Automatically flashes every second of play.
- Universal movement—set instantly from controls for any length period.
- May be used for any sport event using 20 minute periods or less.
- Available single face, double sides, three sides or four sides, all perfectly synchronized.
- Automatic stop and automatic horn.

Write today for circulars on complete scoreboards.

FAIR PLAY MFG. CO., West Des Moines, Iowa

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Chenille Letters and Emblems

EFFICIENT SERVICE • UNIFORM HIGH QUALITY • LOWEST PRICES

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NIXON BUILDING • INDIAN ORCHARD, MASSACHUSETTS

Designers and Manufacturers of

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Write direct for our folder on your school letterhead

MADE WITH UTMOST SKILL
AND CARE

Powers' standards of fit and comfort set the pace in fine quality wear. For the finest appearance of all use Powers' athletic uniforms.

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WATERLOO . . . IOWA

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OCEAN CHAMPION

TRADE MARK REG.

RACING TRUNKS—Featherweight Rayon
BLACK—ROYAL—SCARLET **\$24.00 A DOZEN**

DIVING TRUNKS
 WHITE SATIN ELASTIC
 NO POCKETS OR LOOPS
\$30.00 A DOZEN

TERRY ROBES
 WHITE
 SMALL—MEDIUM—LARGE
\$5.50 EACH

SWIM FINS
 KICKA BOARDS
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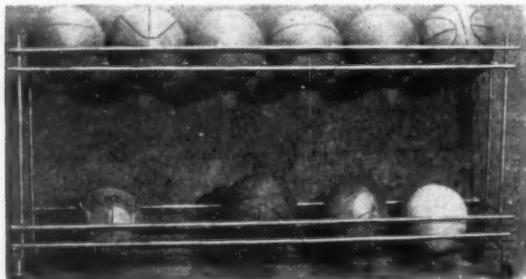
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 1140 BROADWAY, NEW YORK CITY 1, N. Y.

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FOOTBALL BASKETBALL
ELECTRIC SCOREBOARDS AND TIMERS

Write for literature and prices

NADEN & SONS ELECTRIC SCOREBOARD CO.
 1434 Second St. P.O. Box 141 Webster City, Iowa



**The Answer to the
 Loose Ball Problem!**

MAC-RACK

A Movable Basketball
 Rack That Holds
 12 Balls

PRICE: \$24.75

- A valuable rack for Gym and Equipment Rooms. Holds balls, football helmets, and shoes.
- Finished in Bronze, neat and attractive.
- Lightweight Steel-Tube Rack: Length 57"; Width 10 1/16"; Height 27 3/4"; Weight 11 lbs.
- Rubber Casters. Roller Bearings.
- Eliminates problem of loose balls.

MATT L. McBRIDE, 7427 Ingleside Ave., Chicago 19, Ill.

8 ft. apart, straddling a bladed windrow.

10. Drag a cement finisher's straight-edging machine over these forms. (Or you may straight-edge the material by hand.)

11. Roll with a power-driven asphalt roller, then use the surface immediately. If a power roller is not available, use an ordinary lawn roller. But allow the new surface to cure in the sun for a couple of weeks before using. Keep this roller painted with fuel oil so the material will not adhere to it.

12. After three weeks of hard usage, obtain "traffic paint" and mark boundary lines for every game and court in physical ed program.

A comprehensive, all-round, interesting, graded physical ed program in the open air (the proper place for healthful activity) will then be possible for all pupils the greater part of the school year.

During the cold weather months, you may lay down a thin layer of ice with several lawn sprinklers. The "outdoor gym" may then be used for skating before the temperature drops enough to make skating possible on the ponds and streams.

During mild weather, the snow will melt on this dark surface faster than it will on the ground or cement pavement. After a rain, the surface will dry quickly and permit the program to be continued as planned.

REPAIRS ESSENTIAL

Playground surfaces as well as buildings and equipment suffer physical deterioration which goes on every day of the year until such a point is reached that it involves an economic loss to continue the surface in use without complete replacement.

If this physical deterioration is effectively counteracted by a liberal repair policy, efficient service will be assured and the useful life of the surface greatly extended.

Remember, each play area should be considered on its own merits and that the physical education program proposed for the play area should be the basis for determining the surfaces to be used. The size of the play area also bears importantly in the selection of the surface.

School administrators will find "miracle dirt" an efficient and economical solution to their surfacing problems for the playground areas.

O. R. Barkdull is the assistant director of health and physical education for the state of Illinois.

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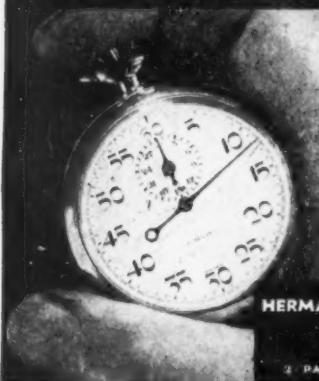
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AMERICAN ATH. WEAR (64) DENVER CHEMICAL (63)
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ARROW SYSTEM (56) ELECTRIC-AIRE (52)
 Information on Reconditioning Service Information on Hair Dryer
BELL-MACK LABS. (68) FAIR PLAY (69)
 Information on Powder for Jock-Itch Circulars on Scoreboards and Amplifiers
BIKE WEB (29) JOHN B. FLAHERTY (16)
 Catalog on Supporters and Training Supplies Information on Elbow and Knee Protectors
 "Sports Trail" News Letter
GEORGE T. BRESNAHAN (68) GENERAL MILLS (47)
 Information on Starting Blocks See adv. for offer of Baseball Books
BUTWIN SPORTSWEAR (61) MARTY GILMAN (64)
 Information on Sports Jacket Catalog on Football Field Practice Equipment
CASTELLO FENCING (58) GRAY LAB. (67)
 Information Information on Automatic Sports Timer
CEDAR CRAFT (58) GREENE CO. (66)
 Information on Electric Scoreboards Athletic Apparel
 Medals, Trophies
 Confid. Price List
CENTRAL MFG. (60) H. & R. MFG. (58)
 Information on T-Sport-Sweat Shirts Information on Dry Markers
CHAMPION KNITWEAR (53) HAND KNIT HOSIERY (52)
 Catalog on Gym Uniforms Information on Wigwam Socks
CONVERSE RUBBER (Inside Back Cover) HILLERICH & BRADSBY (23)
 Basketball Year Book Famous Sluggers Year Book
 Softball Rules
JOHN T. CORE (50) HILLYARD SALES (27)
 Information on Track Score Cards Basketball Chart and Scorebook
 Catalog on Floor Treatment and Maintenance
CROUSE-HINDS (33) HUNTINGTON LABS. (21)
 Bulletins on Lighting Plans for Baseball, Football, Softball Basketball Coaches Digest
 Basketball Shot Charts
D'ATTILO SYSTEM (60-64) HYDE ATH. SHOES (59)
 Information on Repair of Inflated Goods Information on Athletic Shoes
K & P ATHLETIC CO. (68)
 Information on Metal Cross-Bars
KEN-WEL SPTG. (18)
 Information on New Safety Football Helmet
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 Information on Worth Baseballs
BRADLEY M. LAYBURN (68)
 Information on Gym and Playground Apparatus, Portable Bleachers, Electric Scoreboards
LEAVITT CORP. (65)
 Information on Knock-down Bleachers
LINEN THREAD (4)
 Full Information on Tennis Nets Goal Nets
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 Information on Basketball Knee Pad
MAGES SPORTS DISTRIBUTORS (67)
 Information on Repair of Inflated Goods
MARBA SYSTEM (26)
 Information on Athletic Equipment Reconditioning
McARTHUR & SONS (53)
 School Towel Plan
MATT L. McBRIDE (70)
 Information on Movable Basketball Rack
FRED MEDART (55)
 Book, "Physical Training, Practical Suggestions for the Instructor"
 Booklet, "Physical Fitness Apparatus"
 Catalog on Telescopic Gym Seats, Steel Lockers
 Information, Acromat-Trampolin
 Catalog on Basketball Backstops, Scoreboards
MILLER CO. (60)
 Information on Knee Brace

(Numbers in parentheses denote page on which advertisement may be found)

SEE PAGE 72 FOR OTHER LISTINGS AND FORM FOR SIGNATURE

In Stock!



HERMAN H.
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**FOR EXACT TIMING!
IMPORTED SWISS STOP WATCHES**

Large assortment of world-famous Gallet and Minerva watches of highest quality and accuracy.

1/5 second, 1/10 second, 1/100 second timers with or without "Time Out"; also sprint timers. Bulletins 575, 576, 577, 578.

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COMPANY, INC.
NEW YORK, N.Y.

FOR
TRACK EVENTS,
BASKETBALL,
FOOTBALL,
ALL OTHER
GAMES OR
VOCATIONAL
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MASTER COUPON

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NEVCO SCOREBOARD (60-64)

Bulletin on Electric Scoreboard

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Literature
 Booklet, "Tips on Trampolining"

NIXON CO. (69)

Folder on Letters, Emblems, Banners, Pennants

NURRE CO. (39)

Circular on Plate Glass Banks
 Details of Indiana U. Installation*

O. C. MFG. (51)

Information on Apex Athletic Supporter

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Information on Trunks, Swim Fins, Kicka Boards, Nose Clips, Caps, Klogs

OREGON WORSTED (68)

Information on Flying Fleece Recreation Balls

W. H. PAYNE (46)

Information on Record and Score Books

PETERSEN & CO. (58-68)

Catalog on Gym Mats, Wrestling Mats, Boxing Rings, Mat Covers and Prone Shooting Mats, Football Dummies

PHARMA-CRAFT (57)

Sample of Ting for Athlete's Foot

POWERS MFG. (69)

Catalog on Uniforms

QUAKER OATS (31)

Book, "How to Star in Basketball" by Adolph Rupp
How many

RAWLINGS (3)

Catalog

REGALIA MFG. (60)

Catalog on Award Ribbons, Banners, Plaques, etc.

REVERE ELECTRIC (25)

Sports Floodlighting Bulletin
 Catalog

JOHN T. RIDDELL (41)

Information on Plastic Helmets, Shoes, Balls, Track Supplies

SAND KNITTING (65)

Information on Athletic Knitwear and Uniforms

SANI-TREAD (66)

Sample of Paper Bath Slipper

SEAMLESS RUBBER

(Inside Front Cover)
 Information on Sav-A-Leg Home Plate, Athletic Tape, Kanteek Bladders, Hand Balls, Squash Balls

(See page 71 for other listings)

(Numbers in parentheses denote page on which advertisement may be found)

SHADOGRAF MFG. (40)

Information on Basketball Scoreboard

DR. SHIFFER'S LABS. (30)

Sample, Literature on Pomeria 18 for Locker and Shower Rooms

SPALDING & BROS. (1)

Catalog

Sports Show Book

See ad for free reservation of World Series film

STEWART IRON (24)

Information on Field Enclosures and Backstops

STICHT CO. (72)

Catalog on Swiss Stop Watches

UNITED WORLD FILMS (43)

Recreational Film Catalog
 Educational Film Catalog

UNIVERSAL BLEACHER (59)

Catalog

UTICA STEAM ENG. (68)

Information on Portable Bleachers

VOIT RUBBER (17)

Catalog on Rubber Covered Athletic Balls and Equipment
 Illustrated Price List

WAGNER AWNING (35)

Information on All-Star Sports Line

WILLIAMS IRON (63)

Grandstand Catalog

NAME

POSITION

(Principal, coach, athletic director, physical director)

SCHOOL

ENROLLMENT

CITY

STATE

No coupon honored unless position is stated

January, 1948

ADVERTISERS INDEX

AMERICAN ATHLETIC WEAR COMPANY	64
AMERICAN HAIR & FELT COMPANY	56
AMERICAN WIRE FORM COMPANY	66
ARROW SYSTEM	56
BELL-MACK LABORATORIES	68
BIKE WEB MANUFACTURING COMPANY	29
BRESNAHAN, GEORGE T.	68
BUTWIN SPORTSWEAR COMPANY	61
CASTELLO FENCING EQUIPMENT COMPANY	58
CEDAR KRAFT COMPANY	58
CENTRAL MANUFACTURING COMPANY	60
CHAMPION KNITWEAR COMPANY	53
COCA-COLA COMPANY	49
CONVERSE RUBBER COMPANY	3rd Cover
CORE, JOHN T.	50
CROUSE-HINDS COMPANY	33
D'ATTILO SYSTEM	60-64
DENVER CHEMICAL COMPANY	63
DEXTER WOOLEN CORPORATION	45
DOLGE, C. B., COMPANY	44
EAGLE METALART COMPANY	50
ELECTRIC-AIRE ENGINEERING CORPORATION	52
FAIR PLAY MANUFACTURING COMPANY	69
FLAHERTY, JOHN B., & COMPANY	16
GENERAL MILLS, INC.	47
GILMAN, MARTY, INC.	64
GOLDSMITH, P., SONS, INC.	36-37
GRAY LABORATORY & MFG. COMPANY	67
GREENE COMPANY, THE	55
H. & R. MANUFACTURING COMPANY	58
HAND KNIT HOSIERY COMPANY	52
HILLERICH & BRADSBY COMPANY	23
HILLIARD SALES COMPANIES	27
HUNTINGTON LABORATORIES, INC.	21
HYDE ATHLETIC SHOE COMPANY	59
IVORY SYSTEM	4th Cover
K & P ATHLETIC COMPANY	68
KEN-WEL SPORTING GOODS COMPANY	18-19
LANNOM MANUFACTURING COMPANY	15
LAYBURN, BRADLEY M., COMPANY	68
LEAVITT CORPORATION	65
LINEN THREAD COMPANY	4
LOGAN ATHLETIC TRAINERS AIDS	57
MacGREGOR GOLDSMITH INC.	36-37
MCARTHUR, GEORGE, & SONS	53
McBRIDE, MATT L.	70
MAGES SPORTS DISTRIBUTORS, INC.	67
MARBA SYSTEM	26
MEDART, FRED, PRODUCTS, INC.	55
MILLER COMPANY, THE	60
MUTUAL LIFE INSURANCE CO. OF N. Y.	2
NADEN ELECTRIC SCOREBOARD COMPANY	70
NATIONAL SPORTS EQUIPMENT COMPANY	50
NEVCO SCOREBOARD COMPANY	60 & 64
NISSEN TRAMPOLINE, THE	61
NIXON COMPANY, THE	69
NURRE COMPANIES, INC.	39
O-C MANUFACTURING COMPANY	51
OCEAN POOL SUPPLY COMPANY	70
OREGON WORSTED COMPANY	68
PAYNE, W. H.	46
PETERSEN & COMPANY	58 & 68
PHARMA-CRAFT CORPORATION	57
POWERS MANUFACTURING COMPANY	69
PRENTICE HALL, INC.	46
QUAKER OATS COMPANY	31
RAWLINGS MANUFACTURING COMPANY	3
REGALIA MANUFACTURING COMPANY	60
REVERE ELECTRIC COMPANY	25
RIDDELL, JOHN T., INC.	41
SAND KNITTING MILLS	65
SANI-TREAD COMPANY, INC.	66
SEAMLESS RUBBER COMPANY	2nd Cover
SHADOGRAF MANUFACTURING COMPANY	40
DR. SHIFFER'S LABORATORIES, INC.	28
SPALDING, A. G., & BROS.	1
STEWART IRON WORKS	24
STICHT, HERMAN H., COMPANY	72
UNITED WORLD FILMS, INC.	43
UNIVERSAL BLEACHER COMPANY	59
UTICA STEAM ENGINE & BOILER WORKS	68
VOIT, W. J., RUBBER CORPORATION	17
WAGNER AWNING & MFG. COMPANY	38
WILLIAMS IRON WORKS	63
WILSON SPORTING GOODS COMPANY	64